



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

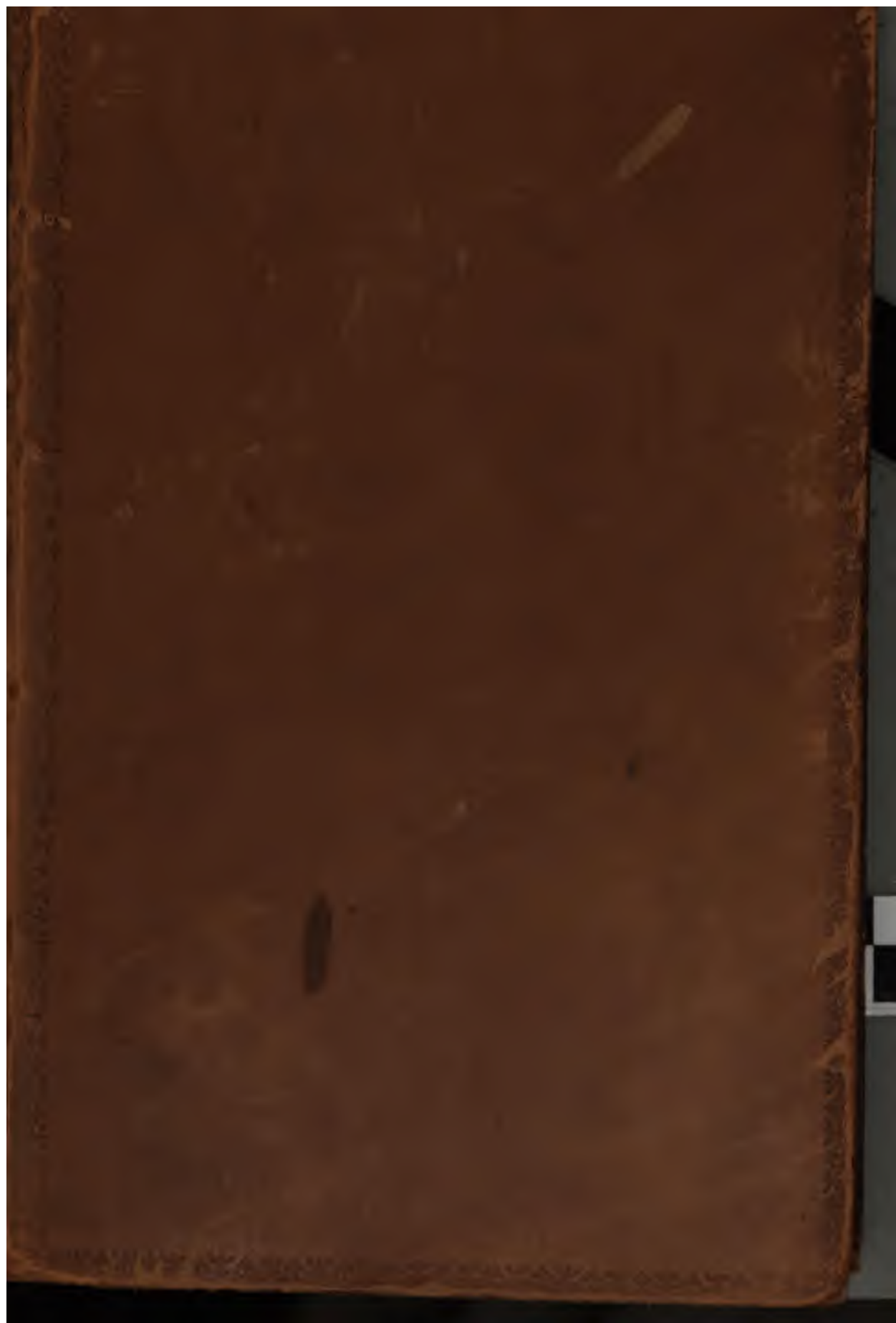
Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>





600003133G

25.885

288. 15

S. H. 1825

DENDROLOGIA BRITANNICA,

OR

TREES AND SHRUBS

THAT WILL LIVE IN THE OPEN AIR OF BRITAIN

THROUGHOUT THE YEAR.

A WORK USEFUL TO

PROPRIETORS AND POSSESSORS OF ESTATES,

IN SELECTING SUBJECTS FOR

PLANTING WOODS, PARKS AND SHRUBBERIES;

AND ALSO

TO ALL PERSONS WHO CULTIVATE TREES AND SHRUBS.

By P. W. WATSON, F.L.S.

HONORARY MEMBER OF THE HULL LITERARY AND PHILOSOPHIC SOCIETY.

COTTINGHAM, NEAR HULL.

VOL. I.

PLATE 1—80.

LONDON:

PRINTED FOR THE AUTHOR;

AND SOLD BY JOHN AND ARTHUR ARCH, CORNHILL.

1825.



885.

ISAAC WILSON, PRINTER, LOWGATE, HULL.

INTRODUCTION.

CONSIDERING the present advanced state of Botany, it seems extraordinary that no person, in our country, to my knowledge, since the time of Evelyn, who had the necessary adequate pretensions to Botanic science, should have taken up, in a special manner, the Dendrologic Department of the science, which introduces to our contemplation those generally noble and always pleasing objects—Trees and Shrubs—composing our forests, woods, and plantations; ornamenting our parks and pleasure grounds; and whose varying, nascent vegetation we rapturously hail at every vernal approach. The most majestic inequalities of the globe, the most sublime mountain scenery, when naked and destitute of vegetation, and particularly of those noble objects Trees, present but arid sensations.

The frequent beauty of the objects themselves, arising from their multifarious varieties of structure in stem, branches, foliage and fruit; the protection they afford, particularly in tropic countries, from the ardent sun, the manifold uses they present to us in their solid parts and chemical properties, in the numerous purposes of the arts, supplying us with food, medicine, fuel, clothing, durable materials for the construction of our stationary habitations, and for those now to us familiarised but surprising wandering ones (ships*) that plough the great deep and enable us to pursue, in every direction, the outline and expanse of the mighty ocean.

Impulsion, (Growth.)

We must, above all, be struck with the force of nature in the production of objects, in many cases so extremely bulky, from such minute origins, replete with such various and often contrary properties, though they may grow close together, and imbibe, as far as we can perceive, the same substances, fluids, and gases from the earth and atmosphere; some producing nutritive and agreeable food, while others yield most deadly poison.

* The camel was called the ship of the deserts, as alone affording to the adventurous traveller the means of traversing those oceans of burning sand in the interior of Africa.

It would appear that each being, animal or vegetable, has a distinct and peculiar power (property) to separate, combine and modify the few original elements (perhaps only one! Newton thought three) so as to constitute, when aided by that wonderful vital principle (life) whose essence is not in our power to comprehend, their various forms, figures, properties and products.

These often immense masses are the offspring most frequently of very small seeds, whose embryos are frequently even invisible to the naked eye. For what apparent relation is there between the embryo of the minute seed of the birch (*betula*) or poplar (*populus*) or even of elms (*ulmus*) oaks (*quercus*) &c. &c. and the various progenies that nature elicits from those minute bodies, by her unknown modifications of their pristine, material elements.

Recorded dimensions of remarkably large Trees.

The dimensions of some remarkably large Trees are recorded in Hunter's Evelyn and other books. In some publications, the magnitude is stated so large that credence hesitates. I shall state two examples that have come under my own view.

On the 19th March, 1824, I went to Bishop Burton, near Beverley, to measure an old elm growing in the middle of the village, which had often struck me as of extraordinary size.

Its dimensions are—

Circumference at the base, 44 F. or 14 F. diameter.

„ 5 F. above ground, $31\frac{1}{2}$ F. or $10\frac{1}{2}$ F. diameter.

It has yet very large branches and leafs vigorously.

There used to stand in the village of Bourne, near Howden, an oak, the heart of which was gone, and the capacity of the inside was so large, that the farmers used to put ploughs and harrows in it in winter. It would hold twenty men. At 5 feet above ground, it measured 36 feet circumference. It was called Bourne chapel; and myself when a boy (55 years ago) have taken shelter in it. It is now cut down and cleared away. Mr. Joseph Thompson, of the Welbeck* Gardens, near Ollerton, in answer to some queries I put to him in March, 1824, respecting the famous Green Dale Oak, in Welbeck-lane, which it appears is in great decay, mentions two large oaks in Welbeck Park, called the *Porters*—(from a gate being placed between them.)

* A seat of his Grace the Duke of Portland.

No. 1—Circumference at base—38 feet					
3 feet—	27	}	Height 96 feet.	Some of the Branches 36—43 feet.	
6 ———	23				
15 ———	20				7
25 ———	19				7
35 ———	18				6
45 ———	13				2
55 ———	10	2			
Solid contents 840 feet.					

No. 2—Circumference at base—34 feet			} Height 88 feet.
3 feet—	23	—	
6 ———	20	—	
Solid Contents 744 feet.			

External Characters.

The external characters of plants (of which only I at present speak) are extremely multifarious, and appear to baffle our conceptions, till we have some clear notions of their original typification; for evidently the same types are of frequent occurrence, and the same forms and figures by them constituted are distributed to individuals of the various families and genera. From the accompanying recurrence of these types, distributions of plants have been made in aggregates, according to the depth of view of the many writers on classification.

The question still is, whether there is in nature, supposing all the proximate species to stand together, a concatenation; or whether, if they were so arranged, there would be abrupt gaps dividing the species into aggregates or families?

This question will probably never be clearly determined, for nothing less than the whole species arranged concatenately (a matter not ever presentable to our view or understanding) can supply the desideratum. It appears to me, that nature is neither concatenous nor aggregate, but typical, and that pursuing these types as primaries, any numbers of systems can be created. Adanson has specified 65 systems.

Myriads of types constituting forms and figures are clearly apparent, and have been distributed into the constituent parts of plants, for purposes, in many cases, to us incomprehensible. From the recurrence of one or more of these types, the numerous subjects of the vegetable kingdom are, however, collectable into some striking groups or affinities, which exceedingly serve the purposes of science, and by their aid the mass is divided into classes, families, genera, species and varieties, varying as to the particular view of each student: yet these are probably still not true natural groups or families, but aggregates

selected from the recurrence of *joint* types, as striking the genius of the writer, but which will always produce a variety of families, in proportion to the number of parts selected to form such groups or series.

Jussieu seems a concatenist, by stating the approximating or receding particulars of his families, while Decandolle and others give a more artificial location to their groups.

Much charge yet operates with the votaries of a natural arrangement, and probably will continue till they fix on the essential parts that shall exclusively enter into their arrangements, as Linneæ did with respect to genera.

For any one the least conversant with numbers must be sensible of the latitude that would be created, if the six parts constituting the fructification, according to Linneæ, were increased even only to seven; and if any system is to be aided by any number of parts, such system must of course be capable of infinite variety and incertitude: indeed the bases of the system of Jussieu are entirely artificial, and the distribution and essential parts of the orders extremely indefinite.

In the study of plants, numeric progression, ascending and descending, arithmetic and geometric, are strikingly apparent, particularly in the parts of fructification, 3, 6, 9, and 12, and 2, 4, 8, 16, and 5, 10, 20, are often corresponding enumerations of the different parts of the same plant, with surprisingly few exceptions, which every one conversant with the investigation of plants, perceives with considerable astonishment.

Review of the principal Works particularly with respect to Trees and Shrubs that will vegetate in the open air through the winter, in Middle and Northern Europe.

English.—EVELYN.

WE are rather deficient on the subject, and the work of Evelyn was long the standard. It tended to demonstrate the national necessity and expediency of raising timber trees, and diffused a taste for planting and rural scenery in Britain, and we are probably, in a great degree, indebted to his writings for the many parks and some of the factitious scenery which form so striking a feature in the aspect of our Island. The British parks are the standard of beauty on the continent, and modern foreign writers on landscape gardening yet refer to them as the best models on the subject.

V

Estimating the work of Evelyn by the present state of botanic science, the defective manner of its composition, and the paucity of its materials are soon apparent: the numerous superstitious legends from early writers detract also from its intrinsic merit. There were five editions of the *Sylva*.

MILLER.

The sciences of botany and horticulture advanced rapidly in Britain from the influence of the able, practical writings of Miller. His works have been translated into German and French, and yet continue to be highly esteemed.

His principal work, the *Gardener's Dictionary*, went through eight editions, the last in 1768 was enriched with the Linnean, trivial names.

New edition of EVELYN.

Influenced by the writings of Miller, a new edition of Evelyn was wanted, and it would have been fortunate for science if this had been undertaken by the former, and received his experienced and amplified remarks.

The work was at length completed by the late eminent Dr. Hunter, of York, who augmented the *Sylva* to two quartos, illustrated with thirty-four plates of trees by J. Miller, at that time the most celebrated botanic draftsman in England. It is a pity the doctor did not, considering the excellent materials of Linneus and others then extant, compile an entirely new systematic work, without shackling himself with the text of Evelyn.

There are three editions of the *Sylva*, by Hunter, the last in 1812.

How far Dr. Hunter has satisfied the scientific public, I shall not pretend to say: his confessions in the preface are not very flattering to the expectations of the botanist.

HANBURY.

The ponderous work of Hanbury, in two volumes folio, contains little novelty, in a botanic view. The details on cultivation may have some merit. It is a pity he did not adopt the happy double name of Linneus; but what shall we say when the still more luminous mind of the great HALLER, who must have been very conscious of its great utility, would not use it in his great work on Swiss plants.

French.—DUHAMEL.

The French were fortunate in the able Duhamel, whose observations will always enrich the natural sciences. His great work, *Traité des Arbres et Arbustes*, appeared in two vols. 4to. in 1755. He sparingly adopts the language and definitions of Linneus,

DUHAMEL, Nov.

Traité des Arbres et Arbustes, que l'on cultive en France, en pleine terre.
Second edition, seven vols. folio!

The plates by Redouté and others. The very dark shading precludes the vivid tints of nature, when coloured. Many of the most common subjects, and some without flower or fruit are figured.

Some greenhouse kinds are inserted and numerous varieties of eatable fruits, which the original Duhamel, more properly, included in a distinct work.

REDOUTÉ.

Les Roses, en 30 livraisons.

He seems to have succeeded the best of any person in the delineation of the species of this beautiful genus, by giving the appearance of that delicate thinness to the petals which most others have managed with so little success.

German.—J. P. DU ROI.

Harbkesche Wilde Baumzucht, 2—8o. 1771—2.

A work of considerable merit, and a useful manual as far as its materials extend.

C. L. WILLDENOW.

Berlinische Baumzucht. Second edition, in one close printed vol. in 8vo.—Berlin, 1811.

It was reserved for the masterly hand of the experienced Willdenow, to present us the best book on Trees and Shrubs, but limited to those that grew in the open air, in the Berlin Botanic Garden, and that would bear the severe winters usual in that country, in which the enumeration is however, very short of that

of the British catalogues, enriched by our very extensive foreign connexions, and introduced from North America and the temperate zones of Europe and Asia.

The number is still farther increasing in Britain, from the high stations of even tropic countries, whose acclimation in this Island was formerly thought impossible.

Willdenow's great skill in botany, aided by the proximate advantage of a fine botanic establishment (institution,) enabled him to watch the floration and development of all the parts from nature.

In this very useful work, a plain description of each plant is given from the living subject, as far as it had developed itself in the Berlin Botanic Garden, at the time of publication in 1811 (for many of the trees, in particular, were young, and had not then flowered.) The descriptions are on strict Linnean principles, to which the author steadily adhered in all his botanic works, taking the parts of the plant in each description in the same order, and not in the often vague, slovenly and reiterated way of many botanic writers, for want of writing them on printed formulæ, and so preserving the same sequential order of the parts.

Delineations. (Icones.)

Some works aim more especially at delineated illustrations. The under-mentioned (including the before cited new Duhamel) are the principal:—

German. FRANTZ SCHMIDT.

Österreiches Allgemeine Baumzucht, small folio.

Band 1 & 2, t. 1—120—Wien. 1792.

3, t. 121—180— — 1800.

This is a very good and useful work, as far as it extends; but the colouring is often too glaring and unnatural. Costs, to import, about £10.

WILLDENOW AND HAYNE.

Abbildung der Deutschen Holzarten. (Trees and shrubs, natives of Germany, from the North and East Seas to the High Alps, and from the Rhine to the Vistula.)

In 36 Nos. 4to. Berlin, 1810—1820. This work contains 216 coloured plates, generally well executed, but the colouring often too weak, and too much sameness in the greens. Charged by the German booksellers, in London, about £16.

French—ANDRÉ MICHAUX.

Histoire des Chênes de l'Amerique. 1-folio. Paris, 1801.

A very excellent and highly useful monograph of American Oaks, with 36 good plates.

F. A. MICHAUX, (SON OF THE ABOVE.)

Histoire des Arbres Forestiers de l'Amerique Septentrionale, tom. 3 en 8o. Paris, 1810—1812.

There is an English (American) translation, entitled the "American Sylva," of this very useful work, published at Paris in 1817, in 7 parts, 8o. which includes the oaks of the father's monograph, with 156 good plates. May be had at 12 guineas coloured, or 9 guineas plain.

English—AYLMER BOURKE LAMBERT.

A description of the Genus *Pinus* in folio. London, 1803.

This valuable and splendid work contains 43 plates, (including *Dombeya* 2, *Dacrydium* and *Cupressus* 2,) and some additional plates are now publishing.

A royal 8vo. edition of this work would be gratefully received by the botanic public.

English Periodic Works—J. E. SMITH & J. SOWERBY.

English Botany, 36 vols. 8vo. London, 1790.

This very extensive, useful and indispensable work to the indigenous botanist, is illustrated with 2592! coloured plates, all natives of Britain, and includes about 100 Trees and Shrubs for the Dendrologist, indigenous to the British Isles. Though the forest trees are only about 30, (how few compared with the rich forests of North America!) costs £55 6s. 6d.

H. ANDREWS.

The Botanist's Repository for new and rare plants, 10 vols. 4to. London, 1797.

Contains 664 coloured plates, and is generally devoted to plants from hot climates. A few, showy, hardy shrubs are amongst the number. Costs £30.

CURTIS & SIMS.

Botanical Magazine.

Begun by the late Mr. Curtis in 1801, and continued to and at the present period (1st Nov. 1824.) by Dr. Sims, contains 2530 coloured plates of plants that have flowered in the British gardens, and is the most extensive and useful botanic work extant in any language. It contains a good many figures, of the showy American bog shrubs. Costs £63 3s. 6d.

KER.

Botanical Register. Contains (1st Nov. 1824) 846 coloured plates of plants that have flowered in the British gardens; still continues and is also a valuable work. Costs £23 8s.

It is a pity these two last mentioned works should not, as much as possible, keep clear of each other, as to the subjects published.

C. LODDIGES AND SONS.

Botanical Cabinet. Ninety-One parts, each containing 10 plates (910 plates) are now (1st Nov. 1824) published.

There are two editions of this very useful work, one in 4to. with the plates, wholly coloured, price 5s. each part, and one in 8vo. with a flower and part of the plant coloured, at 2s. 6d. each number. I consider this latter economic plan very good, and I hope it will be imitated by others. It is equally useful to the botanist, as the wholly coloured copy, and at half price, a weighty consideration.

Cost of the 4to. edition, £22 15s.—of the 8vo. edition, £11 7s. 6d.

Few persons (if any) possess the advantages these gentleman do for the publication of such a work—one of the finest sale-establishments of plants, constantly under their own inspection and management.

The application of steam to heat their very extensive plant-glass-houses, is highly interesting. The ground for hardy trees and shrubs is very capacious, and is laid out in thirteen concentric circular borders, with gravel and grass-walks between them, and the plants are in one continued alphabetic, named series (except the beautiful American peat shrubs, which occupy the nine middle circles, and require to be cultivated in heath-mold) Indeed the whole establishment is very extensive and particularly complete and curious.

These gentlemen also publish, from time to time, a very useful catalogue, containing only what plants they *really possess* at the period of its publication.

With the above cited expensive materials, even the Dendrologic department of botany (Hardy Trees and Shrubs) is at present necessarily connected, and they form an indispensable part of the apparatus of the student, not to mention many other very voluminous and expensive works, in which particular objects are dispersed, and to which the botanist, in any department, must have frequent reference. In the extensive scale of botanic pursuits, departmental publications, from the considerations just adduced, must be highly useful, as Hardy Trees and Shrubs, hardy herbaceous plants, green-house and stove plants, or even particular natural orders, as Liliaceæ, Gramineæ, &c. or monographs of single genera, as each separately have often their particular admirers, who cannot buy all the books extant, and no life or genius is equal, in a particular and detailed way, to embrace the whole now discovered vegetable system.

These considerations influenced the author to attempt a distinct work on hardy trees and shrubs, on a uniform plan, and he has selected those that had not been done by British botanists, of recent date, in the 172 plates now published. The encouragement this selection may meet with will necessarily determine the farther progress of the work, without reference to miscellaneous extant publications.

The merit of the execution of the work must be left to the candour of the scientific public, who are alone capable of appreciating the difficulties of such an undertaking. The author begs to add that the descriptions and drawings were all made from the same living object, (individual) a necessary precaution to prevent the errors unavoidable from compilation. The dissections were made under his own superintendence.

Observations on some particular Genera.

I have made few alterations to the usual, established genera.

Planera I have considered as distinct from *Ulmus*, from its bearing a capsule (not a samara.)

Lyonia as distinguished from *Andromeda*, by its muticate anthers and *Carya* from *Juglans*, from its very different male aments and flowers.

Spartium I have merged into *Genista*, after the example of the French.

Oxycoccus I have (after Pursh) separated from *Vaccinium* as bearing only eight stamens.

Cydonia, *Malus* and *Sorbus*, I include in *Pyrus*, having the spermoderm (seed-coat) cartilaginous and *Cratægus* I have merged into *Mespilus*, from the seed being contained in *Pyrenes*.

THANKS.

My thanks are particularly due to W. T. Aiton, Esq. of Kew, for permission to inspect and take specimens from the fine Arboretum there.

— To Aylmer Bourke Lambert, Esq. for permission to use his very extensive library and herbarium.

— To Robert Brown, Esq. for the like permission to inspect the Banksian library and herbarium.

— To Mr. William Anderson, principal gardener to the Apothecaries Company's Physic Garden, Chelsea.

— To the following Gentlemen, (I put their names alphabetically to avoid the appearance of preference) for their great liberality in permitting me freely to inspect their respective, extensive, and valuable collections of plants.

Messrs. Colvill & Son, King's Road, Chelsea.

Mr. Hill, Leytenstone.

Mr. T. Jenkins, Botanic Garden, New Road and Regent's Park.

Mr. Knight, Exotic Nursery, King's Road, Chelsea.

Mr. James Lee, Hammersmith.

Messrs. C. Loddiges & Sons, Hackney.

Messrs. Malcolm & Co. Kensington.

Mr. Rollisson, Upper Tooting.

Messrs. Rollisson & Son, Brentford.

Messrs. Whitley, Brames & Milne, Fulham.

I have also reaped advantage from inspecting the fine Trees (introduced by Catesby, Miller, Collison and others) in various private gardens in the Parish of Fulham, and particularly those of the Bishop of London and Mrs. Simpson's (late Ord's) Purser's Cross, Walham Green; which last, in particular, contains many noble specimens of Forest Trees.

HULL BOTANIC GARDEN.

** Respecting the Garden itself.*

As I am a native of Hull, and have lived there and in its vicinity the greatest part of my life (64 years) the establishing a Botanic Garden at my birth-place, in the year 1812, was to me, as I had previously devoted myself to British Botany, a very pleasant circumstance, and I took a lively interest in its formation and subsequent improvement.

Origin.

The Institution has certainly to thank its origin and means of formation from the very great exertions of J. C. PARKER, Esq. an ardent lover of botany, and without whose efforts, though many other persons favoured the scheme, I am pretty certain subscriptions would not then have been raised adequate to the cost of such an establishment on any respectable scale.

Extent and First Cost.

The Garden contains five acres of ground, to purchase which, with the expense of making gravel walks, hot-houses, (the central green-house is 40 F. long, one wing, the stove 30 F., the other wing 30 F. long is now to be built to make the range 100 F. long,) walls, lodges, cost of the first trees and other plants, &c. &c. amounted in Oct. 1816, to £4470.

Means.—Number of Shareholders and Subscribers.

The number of Shares sold up to this time (1st November, 1824) is 498, (213 at Five Guineas and 285 at Six Pounds each Share) and the number of Subscribers at One Guinea and Half 4s Annum is 277, and 7 at Two Guineas 4s Annum, which, for a trading town of 30,000 inhabitants, may be considered respectable, though by no means adequate to the expense of an extensive establishment of its nature. It was hoped, donations would have come in from the opulent, but except the single one from Francis Constable, Esq. of £21. and £1, 12s. 9d. anonymous, nothing more has been received in this way!

Circumstances at its Formation, and first Stock.

Circumstances were rather favourable to the Institution at its commencement, and for a few years afterwards.

Soon after the formation of the Garden, the extensive nursery-stock of the late JOHN PHILLIPSON, of Cottingham (one of the best cultivators in England) was disposed of, and the Garden had the choice of that collection at a reasonable rate: this, aided by a few purchases from the rich London nurseries, the plants procured by Mr. DOWN, the Curator, from his uncle, the late Mr. JAMES DOWN, of Cambridge, and his exertions amongst others friendly to the institution, made a respectable beginning.

I hope I shall not be considered vain in adding my own endeavours to furnish the institution with many indigenous plants, which I collected at considerable expense and labour, by traversing the whole East Riding of Yorkshire, in my gig, with proper apparatus for cutting up roots, collecting seeds, &c. of the rarer sorts, whose habitats had been rendered familiar to me from numerous, previous herborisations.

Progress.

Thus favourably circumstanced, the Garden increased rapidly the first three or four years, and bid fair to possess those scientific features which constitute the real intrinsic value of such an establishment, and it was certainly much richer in the fourth year than it at present is, at any rate, in the more useful, hardy department.

Since that time, I am sorry to add, it has not made that progress to justify the expectations of the scientific botanist, or kept pace with early flattering hopes.

Spacing.

The principal catalogues of plants, esteemed hardy to Britain, were consolidated, and a square of 3 $\frac{1}{2}$ 2 $\frac{1}{2}$ F. was allotted for each perennial plant, to leave room for all expected acquisitions, and each space had a named label-stake.

Arrangement.

The first arrangement of the perennial quarters, was made after the valuable and elegant synopsis of PERSOON, and each generic label-stick was paged, to facilitate immediate reference to that work, so that *those that run might read*. The

beds were $2\frac{1}{2}$ F. wide, with allies of $1\frac{1}{2}$ F. between them, and contained 22 plants each, and had number-stakes, to be referred to on a plan of the Garden which was intended to be made and hung up in the Committee-room.

This arrangement, though very good, and perhaps the best, as it followed the order of PERSOON'S species, was afterwards annulled by the committee, and the whole ground laid out after the certainly more enlightened system of JUSSIEU, as to genera, and was no doubt, excepting that at Kew, the most Complete scheme in the kingdom. It fell to my lot to execute these two arrangements, and an arduous task it was; and, had I foreseen what would follow, I might have been excused from that trouble, as the arrangement is now altered to that of MR. DONN'S catalogue! which, though good as a catalogue, cannot pretend to the scientific correctness of the two other mentioned great works, in which are the accompanying characters—for what is a list of bare names?—by which (present) arrangement, the Garden has lost that classic feature so essential to a public, botanic institution.

Persons assisting in its formation.

A. H. HAWORTH, Esq. so well known from his various publications in natural history, then lived at Cottingham, (a village five miles from Hull, where I now reside.)——William Spence, Esq. joint author with the Rev. W. Kirby, of Barham, in Suffolk, in their great work “Introduction to Entomology,” and sole author of several other smaller works, then lived at Hull, and also myself.

We three joined our active exertions with those of MR. PARKER, in forwarding the intentions requisite to such an institution. To these must be added the exertions of Mr. William Donn, the present Curator, who has managed the Garden from its first establishment.

The two first gentlemen, MR. HAWORTH and MR. SPENCE, left Hull some years ago, and I myself have been absent from it the last seven or eight summers, and the Garden I may presume to say, lost the vigilance of some of its warmest supporters. I shall not pretend to say how far the institution has suffered from these circumstances. The Garden has always been under active and well intentioned Committees, but such establishments want something more—they want these ardent, constant, and scientific attentions to give them a classic feature, and render them of importance to the sciences—which attentions are not to be expected but from persons devoted to botany.

Aspect.

It is certainly a handsome Garden, and is laid out much after the plan of that at Liverpool; the Committee had the assistance of Mr. JOHN SHEPHERD, the experienced Curator of that establishment, in laying it out, as far as respected its general feature.

Duty of Committees.

I strenuously recommend to Committees to keep a watchful eye to the scientific departments of the Garden, to see the plants are in a kind of geometric and scientific order, and in line, space, group, &c. (the Liverpool garden is excellent in this particular,) with appropriate neat labels to each, and with a zeal to fill up the blanks. Those who have ability to investigate and try the names, would confer an obligation on the Garden by pointing out any errors, so as to bring the Garden, at some period, to a classic perfection.

The keeping a garden neat, clean, and pretty, is a mere mechanic work, and should not be esteemed farther than its use.

*** Miscellaneous Observations.**Extent and Use of the Science of Botany.*

BOTANY is in a far different state from what it was, when few else but European plants were known, and these very imperfectly—it has assumed a philosophic feature—perhaps 50,000 plants are scientifically described, and the number is fast increasing by the communications of bold and scientific travellers, penetrating South America, in particular, in all directions, and exploring other regions, for the sole purpose of extending the natural sciences.

It may easily be perceived what extent of intellect must be required to characterise, class and arrange the half of these, added to the attendant extensive nomenclature, so that botany or any branch of natural history, may fairly have the title of a philosophic study.

The student might reasonably be alarmed at this extensive enumeration, if his fears were not, in some measure, alleviated by the consideration that an immense extent of country must be traversed to furnish 3—4,000 distinct species.

Natural history is now an indispensable part of a traveller's education, to bring us to a close acquaintance with the valuable products of foreign countries, the

origins of which are yet, in many cases, unknown. What are the numerous details of most travellers, of what they ate, or what they drank, to the luminous observations and enlightened researches of some few others, who had previously qualified themselves by studying astronomy, geography, and natural history.

The scientific adventurer must be pre-educated on the bases of THUNBERG, MICHAUX, BROWN, HUMBOLDT and BONPLAND, BUCHANAN, SPIX and MARTIUS, &c. and it is the special business of scientific institutions to furnish the preliminary necessities to such enlightened adventurous travellers.

I am sorry to observe, that as far as my knowledge goes, the Hull Garden has not yet elicited one botanic genius. Will none of my trade-adventurous townsmen scan the Andes or Himmalas, or traverse the extensive plains of Tartary? Our neighbouring place, Marton, gave birth to the scientific, intrepid and immortal navigator, Cook. Will Hull not one day furnish a Humboldt, Michaux, Thunberg, Brown, or a Buchanan?

Continental Gardens.

The principal continental gardens, such as Paris, Vienna, Berlin, &c. by being under the direction of professors, who are in some measure accountable to the public for the accuracy of the names, have, to the student, far the advantage over ours, though they may be deficient in many of the Tropic, Cape, and Australasian species—for what are hosts of plants to live and die without name, register, or use? The mere sight can be gratified at much lighter expense from ornamental borders, containing about a dozen sorts of the most strikingly gaudy species; but to the naturalist, the most insignificant are of equal value as forming a link in the great chain of nature.

Present Committee for managing the Hull Botanic Garden.

(1st November, 1824.)

John Alderson, Esq. M.D. President.	W. H. Dikes, Esq.	J. K. Watson, Esq.
Benjamin Snowden, Esq. Secretary.	G. Fielding, Esq.	P. W. Watson, F.L.S.
	J. Kennedy, Esq. L.L.B.	
John Alderson, Esq.	Rev. George Lee.	Mr. William Donn,
J. C. Cankrien, Esq.	C. Lutwidge, Esq. A.M.	Curator.
John Crosse, Esq. F.S.A., M.G.S.	J. C. Parker, Esq.	

Note to bottom of Page 12.

The stove (west wing) was erected by the aid of voluntary subscriptions, amounting to £99. 18s. 6d. from 70 Proprietors, out of the then whole number of 300 Proprietors.

CARPOLOGY.

As the arrangement of plants after the natural orders of Jussieu is now pretty generally attended to, with such alterations as more extended science has introduced since the publication of his great work, *Genera Plantarum*, in 8o. 1789, (an edition also by Uster, in 1791) it becomes necessary to the botanist to be acquainted with many terms and definitions which have been introduced (principally by French writers) in designating those important parts—fruits and seeds; for no genus, even, can properly be constructed without adding the characters of the fruit.

Some elucidation of these new terms is the more necessary as they are now insinuating themselves into most recent botanic works (for science is slow and unwilling to be farther burthened) and particularly in those luminous works of the able Decandolle, which are now become the classic standard, as those of Linneus and Willdenow were before.

Extensive collections of fruits and seeds are made by principal botanists, to subserve the purposes of their studies, and a fine well stored cabinet is exhibited at the Museum at Paris.

The study of fruits and seeds is by far the most difficult part of Botany, and we have not much in the English language illustrative of the subject, except J. Lindley, Esq.'s Translation of L. C. Richard's *Observations on Fruits and Seeds*. London, 1819.*

This work, however, is more particularly restricted to the seed and its contents, than to fruits. As it is in every person's hands who make a study of this part of botany, I do not generally quote it, but confine myself to the elegant introductory works of Mirbel, Gerard, Desvaux, Richard and Decandolle,† as far superior to any thing we possess in our language.

* There is also a German translation of Richard's work, by F. S. Voigt. 1811.

† 1. Brisseau—Mirbel - (C. F.) *Elements de Physiologie et de Botanique*. 1815. Two vols. 8vo. with 73 plates.

The many introductions we have in English, are almost wholly from Linneus; without the additions that have enriched science since the time of that great man.

Dr. Hull, in his *Elements of Botany*, has done great service to the English reader, by translating some useful papers, and particularly the luminous introduction of Gärtner to his immortal work "*De Fructibus et Seminibus Plantarum*, in 3 vols. 4to. with 225 plates."

This is the first botanic work of its kind, extant, and is indispensable in the study of fruits and seeds. The very numerous figures it contains are neatly executed but in many instances on too minute a scale, and the situation of the seed, with respect to the axis of the pericarp and the contents of the seed, as they correspond with the hile, are often obscure on merely inspecting the figures. The direction of the radicle, with respect to these two parts, so important a consideration, is also often obscure. But posterity must improve on him, who has done so much.

A new Introduction to Botany, in our language, is still a desideratum, incorporating the whole of the French botanic introductions above-mentioned, and also many observations from the late numerous useful German and English writers on botany. It should be in four columns—Latin, French, English and German, and be compiled by an able, scientific botanist, well acquainted with the relative botanic force of expression in these languages, and not by a merely literary man from the language of conversation.

Science ought to be clothed with its own distinct and definite terms, and not with vague, vernacular expressions, as is too frequently done.

I shall also notice the receptacle of the fruit and the disk, (phoron or bearer) an important part which occasionally is present, supporting all or some of the parts of the fructification, and which has not hitherto been sufficiently attended to.

2. Gerardin (Sebastien) *Dictionnaire raisonné de Botanique*. 1817. One vol. 8vo.

Published by N. A. Desvaux, with a Supplement.

N. This work being unfortunately alphabetic, the very worst of arrangements for scientific subjects, precludes, by its scattered articles, the use it otherwise would have bestowed by its, no doubt, valuable contents.

3. Desvaux. (N. A.) *Programme et Nomologie*. 1817. One small 8vo.

4. Richard (Achille) *Nouveaux Elements de Botanique*. 1819. With 8 plates.

(N. There is a second edition since.)

5. Decandolle (A. P.) *Theorie Elementaire de la Botanique*. 1819. Second edition.

Before I attempt to characterize the pericarp in the Carpologic Concordance, it will be necessary to identify at some length, the nature of the pistil or ♀ organ, either as an aggregate or as consisting of three parts, style, stigma and ovary, which last becomes the fruit, and contains its essential organization; and also consider the constituent parts of the pericarp and seed, in order to have clear notions of the language used in natural arrangements, but more particularly in Carpology.

NOMENCLATURAL CONSPECTUS.

* *ACCESSORY organs situated in flowers, not genital organs or teguments, but supporters (bearers) or appendages of one or other of them.*

1. Receptaculum.....receptacle,.....
Torus. Salisb......
Sedes flores. Grev......
Clitium. Greek......
Thalamus. Latin......
 thalamiflorussexual organs fixed to receptacle.

2. Phorum.....bearer.....
Discus.
 1..anthophorum.....bears a flower or flowers.
 monanthophorum P.W.W.
 polyanthophorum " "
 2..gonophorum.....bears the genitalia.
 gynandrophoron. P.W.W.
 3..androphoron. "bears the stamens.
 4..gynophoron. "bears the pistil.
 carpophorum. Lk......
 thecaphorum. Ehr......
 basigynum. R......
 5..polyphorum. R.bears several pistils.
 polygynophoron. P.W.W.

Parastyle. Lk......abortive pistils.
Paracarpium. Lk......" pericarps.
Lepisma......scales.....at base of some ovaries.
Saccus. Lk......glands of anthers.
Urceolus. Lk......vesicle.....surrounding the ovary in carex.

3. Glandula.....(ovarianä).....ovarian glands....

** *Essential Organs.*

4. Sexus.....sex.....
 1..femineus.....♀ female.....
 gynos. Greek......
 2..mas.....♂ male
 masculus......

— masculinus	masculine.....
<i>ander. Greek</i>	
sexualis.....	sexual.....
— unisexualis.....	uni "
— bisexualis.....	bi "
neuter.....	having no sexual organs.
<i>agenus. Lamoth</i>	
<i>agenus. R</i>	
androgynus.....	male and female organs without designation of position.
hermaphroditus.....	both sexes united in the same flower.
idiogynus.....	having no female organ.
monogamicus.....	flowers separate and distinct.
monicus.....	male and female flowers separated, but yet on same plant.
dioicus.....	" " " on two distinct plants.
trioicus.....	male, female, and bisexual on three distinct plants.
polygamus.....	" " " on the same or on distinct plants.
fertiles.....	fertile.....
steriles.....	sterile.....

Genitalia.....
Genot. Greek.....

5. Pistillum.....pistil.....
Gyné. Greek.....
Gynos. ".....

6. Stylus.....style.....
tuba vail. Hal.....

7. Stigma.....stigma.....
vulva vegetabilium. L. (sometimes.)
cornuta. Jang.....stigma-branches..
gynzius. R.....humid and viscous area of the stigma of orchidea.
postellum. R.....prolongation of the stigma which covers the gynzius.
corda pistillaris. Corr.....pistillary cords,....conducting the aura seminalis.
styletus. Lk.....

8. Ovarium.....ovary.....transformed into the pericarp.
 1..simplex.....simple.....
 2..divisum.....divided.....
germes. Lk.....
gynobasis. D.C.....
 3..multiplex.....multiple.....

9. Fructus.....fruit.....fecundated ovary.
Carpon. Gr. 1. simplices.....simple.....from a single ovary.
 2. multiplices.....multiple.....from several ovaries, but only one flower.
 carpellum. D. C......
 chorion. M......
 3. aggregati.....aggregate.....from several ovaries each having had a flower.
 carpidium. D. C......
 heterocarpinus. D.....heterocarpian.....ovary developing with some other part modifying its form.
 pseudocarpinus. D.....pseudocarpian.....the true fruit hid by the surrounding parts, which latter appear to constitute the fruit itself.
 gymnocarpes. M.....uncovered.....
 angiocarpes. M.....covered.....

- Indavia*.....teguments.....
 forales. Corr......floral teguments.....persisting and accompanying the flower.
 —indaviatus.....tegumented.....

10. Pericarpium.....pericarp.....
 Conceptaculum.....
 Semium. Jung......(who reserves the pericarp for a dry, indehiscent one!)
 Med......
 1. epicarpium. R.....outer skin.....
 2. sarcocarpium. R.....mid-flesh.....
 3. endocarpium. R.....inner skin.....
 } pannexterne and panthinterne. M.

(* Exterior parts or appendages.)

- ala*.....wings.....
corona.....crown.....
pappus.....pappus.....
cauda.....tail.....
valvula.....valves.....
valvula.....
 valvatus.....valved.....
 valvaceus. Lk......
sutura.....suture.....

(* Interior Parts.)

- dissepimentum*.....partition.....
lignum intergerium. Breyn......
distinctio. Breyn......
 1. longitudinales.....longitudinal.....
 septum. Lk......
 2. transversales.....transverse.....
 phragma. Lk......
 3. valvares.....valvular.....formed by the edges of the entering valves,
 valves intrastatis......
 4. medivalves. M.....middle-valved.....going from middle of valves to the axis.
 —false valves. } 5. cellulares. M.....cellular.....a simple lump of cellular tissue.
Loculi.....cells.....
loculamenta......

<i>theca. Br.</i>	locularis	celled.....	
	2, &c. „	2, &c. celled.....	
Cocculum	3, &c. cocci	3, &c. coccoons	
pulpa		pulp	of cells (not of pericarp.)
11 Placenta	placenta		
<i>Trophospermium. R.</i>			
<i>Spermaphorus. Lk.</i>			
<i>Colum. Salisb.</i>			
<i>Receptaculum semi-</i>			
<i>num. Noth.</i>	placentarium. M.	placentary	union of placentas.
	placentatio	placentation	method of fixation of seed to placenta, (pericarp.)
	retinacule.....	holders.....	hooks from the placenta to hold the seed, not support it.
12. Funiculus	funicle		sheath to the vessels that unite seed to ovary.
<i>podospermium. R.</i>			
13. Arillus	aril		made in nutmeg, parch- ment in coffee.
14. Pellicula. D. C.	pellicle		a very thin membrane en- tirely enveloping some seeds and bearing hairs. (Gossypium.)
<i>epidermis. G.</i>			
Coma.....	hair-tuft.....		at end of some seeds.
15. Ovula	ovules.....		rudiments of the seed before fecundation.
<i>Ova.</i>			
15* Semen	seed		
<i>Spermum. Greek.</i>			
<i>Exterior appendages of Seeds.</i>			
pterigium	wing.....		
strophiolä.....	strophioles		hunches on some seeds.
16. Spermodermis. D.C.....	seed-coat		
<i>perisperm. R. in Annal.</i>			
<i>episperm. R. in Mem.</i>			
1. testa	outer-coat		
<i>lorica. M.</i>			
2. Sarcodermis.....	mid-flesh (mid-coat)		
<i>parenchym.</i>			
3. endopleura D. C.	inner coat		
<i>tunica interior. G.</i>			
<i>hiliferus. M.</i>			
<i>tegmen. M.</i>			

17. Cicatrix. D. C.

Hylus pile*Hylus**Umbilicus**Finestra*

1. omphalodium. Turp. omphalode

2. micropyla. Turp. micropyle

foramen. Grew.

Spilus. R. spile hyle of Gramineæ.

18. Prostypum. M. protype

1. rapha raphe

2. chalaza chalaza

19. Nucleus. kernel

20. Albumen .. Grew. G. (egg-white)

Secundinā internā. Malp.*Medula seminis*. Jung.*Perispermum*. Jus. perisperm*Endospermum*. R.

Chorion Malp.

Amnios Malp.

Vitellus G. (egg-yolk) imaginary being.

a. Bacillus. Lk.

b. Blastus. R.

c. Blastophorus. R.

d. Epiblastus. R.

e. Rhizophysia. M.

} supposed parts of the
vitellus of Gæ.

21. Embryo. embryo... in upper part of amnios.

Coracum*Cor seminis*. Jung.

macropodius. R.

macrocephalus. R.

endorhizus. R.

exorbizus. R.

synorbizus. R.

22. Plumula. plumule

Gemma. R.

coleoptila. M. plumule-sheath..

coleoptila. R.

1. cauliculus. tigil unites radicle to cotyledons.

2. gemmula. plant-bud first bud and above the
cotyledons.

23. Radicula. radicle

Rostellum. L.

radicella. R. rudiment of a radicle.

coleorhiza. M. radicle-sheath

24. Cotyledones. cotyledons

lobi. Grew.

XXIV

<i>Valvi seminum. Jung.</i>	
corpus cotyledoneum.....	cotyledonous mass...cotyledons in their united state.
<i>matr. body. Grew.....</i>	
synzygia. R.....	point of junction when opposite.
lobuli. M.....	when alternate, it is the upper one.
racines seminales. Fr.....	geminal roots.....vessels passing from plumule into cotyledons
<hr/>	
25.....	Vascular system.

Dilated particulars of the most important parts enumerated in the above Conspectus.

1. RECEPTACULUM, (not Phoron) point (or apex) of peduncle and generally an excavation of it, from which arise all the parts that compose the flower.

Bears the flower and fruit (stamens, staminiferous, coral, and ovary.)

Space between point of junction of ovary and calyx.

2. PHORON, PHORUM, (bearer) improperly considered as synonymous with receptacle.

A fleshy protuberance.

A foreign body.

When the ovary is free it sits on its apex, or by a parietal protuberance at orifice of tube of calyx.

— *continuous*—equal to size of base of ovary, but different in colour.

— *distinct*—projecting rings, angles, eminences, sinuosities, or concavities, to receive the ovary when it is free.

— *Anthophorum*—bears the flower and its compositive parts.

A particular prolongation of receptacle and arising from bottom of calyx.

— *Gonophorum*—prolongation of receptacle bearing the genitalia.

— *Androphorum*—bearing the stamens.

— *Gynophorum*—arising from receptacle and bearing the pistil (ovary) only.

Bears the pistil though not a part of it.

Does not essentially belong to the pistil, but remains at the bottom of the flower, when this latter falls off.

Oft becomes thick and fleshy (*Rubus*, *Fragaria*) when there are several pistils in one flower.

Simply articulated with the pistil, so that the 2 faces are not continuous.

Often separates from the pistil and remains fixed on the receptacle, of which it is a particular development.

Sometimes confounded with glands (nectaries) that distil the melliferous juices of flowers.

Conic, cylindric, hemispheric, &c.

— *Thecaphorum*—bearing a simple ovary.

— *Polyphorum*— „ several ovaries.

3. GLANDULÄ..(ovarianä.)

Secretary.

Near the ovary but different in aspect and colour.

(Present.)

— When ovary is situate above a fleshy tubercle.

— When a projecting protuberance is seen on the top of an inferior ovary.

— When bottom (or tube) of calyx are covered with a fleshy, smooth substance distinct from the paries (in-coat.)

4. SEXUS..

5. PISTILLUM. a whole divided into 3 parts, style, stigma, and ovary, or an aggregate of similar organs coalesced.

The female organ situated in the centre of the flower, at the time the anther is charged with pollen or has just shed it.

Reposes on the receptacle.

Receives the vessels of the mother plant at its base.

Sometimes changes into petalloid laminä and becomes sterile.

One or several.

— *Podogynum*—foot of pistil and part of it.

Not continuation of receptacle, but of pistil (ovary.)

The tapering part of base of ovary elevating the pistil a little from the bottom of the flower.

Accompanies the pistil in all the stages of its development.

6. STYLUS—prolongation of the ovary which supports it.

Supports the stigmas,

Sometimes only 1 from 2 ovaries.

Generally several surmount 1 ovary.

Linneus reckons as many female organs as there are styles.

Sometimes wanting or so short as to appear so.

Communicates mediately, or immediately with the ovary.

— *Immediately*—when it is basilar, lateral, or terminal.

— *Mediately*—when it rests on the receptacle or on a gynophore (not on ovary.)

7. STIGMA—the summit of the pistil.

A glandular part generally situated on top of ovary (or style.)

Terminates the style and receives the pollen (fecundating matter.)

Placed immediately on the ovary when the style is wanting.

Never absent.

Appears excoriated, or humid, or inequal and covered with papillæ or small nipples.

8. OVARIUM—the closed cavity in which the seeds are developed.

Generally the lower and thickest part of the pistil.

Contains the ovules (nascent unfecundated seeds) attached by their funicles to the paries (inferior cavity.)

Often divided into cells by partitions.

Shelters the seeds till their maturity.

Elaborates the nutritive juices, in its tissue, which serve for their development.

Its form various.

— *Fecundation*—is as indispensable to the development of the ovary, as to that of the ovule.

The ovary whose stigma has not received the fecundating powder fades without increasing.

If fecundation has taken place the ovary increases, its paries (in-coat) produces numerous ramifications, and it often acquires dimensions and form very different to those it had first.

— *Development*—before the flower opens and when the pistil begins to develop, the ovary is filled with a very delicate, cellular tissue, quite homogenous and whose transparent cells before the appearance of the ovules are infiltrated by a limpid liquor.

— *Simple*—when only one cell or when all the cells are agglutinated together.

— *Divided*—when, having but 1 style, it is still composed of several cells not agglutinated, which are oft considered as distinct ovaries. (Labiata.)

These cells adhere to the base of style which transmits fecundation to them.

The base of the style is often much swollen and is then called gynobase. (Ochna.)

— *Multiplex*—when there are several distinct cells each provided with a style.

— *Base*—the point by which it fixes to the receptacle.

— *Apex*—always corresponds with the point where the styles or stigma are fixed on it. As this insertion is sometimes lateral, the organic apex of the ovary does not always correspond with the geometric apex.

(Comparative Position.)

— *Free*—generally so and at bottom of flower.

Base is fixed on that part of the receptacle where the stamens and floral envelopes are also inserted.

— *Inferior*—under the flower.

Embodied with tube of calyx, its apex only being free at the bottom of the flower.

Excludes multiplicity of pistils.

Necessitates a 1-sepaled calyx.

Sometimes it is not intirely inferior, but $\frac{1}{3}$, $\frac{1}{2}$, or $\frac{2}{3}$ is free.

— *Parietal*—when several pistils are fixed to the internal paries ! of a closed calyx.

9. **FRUCTUS**—the developed ovary inclosing the fecundated seeds.

Formed of the pericarp and the seed.

1. Simple. 2. Composed of carpels.

CARPELLUM—(partial pistil.)

Carpels are generally distinct.

Or are coalesced at base, middle, or as far as top.

Or are coalesced into a single fruit.

Some ovaries apparently single, but only several-celled, may be formed by the coalescence of several carpels.

Multilocular fruits only appear to differ from compound fruits, because the carpels are agglutinated in the former and distinct in the latter.

1-celled fruits often (if not all) arise from the abortion of some carpels.

In defining the number, the immature ovaries must be examined, as the most certain criterion of the natural number.

Carpels separate spontaneously at maturity.

10. **PERICARPIUM**—every part of the fruit not seed.

That part of the ripe and perfect fruit formed by the coats of the fecundated ovary, containing 1 or more seeds, which it generally envelopes.

Always present, though it sometimes seems wanting.

Composed of 3 superposed parts—1. Epicarp.

2. Sarcocarp.

3. Endocarp.

— *Epicarpium*—the exterior thin membrane.

Sometimes formed by the tube of the calyx.

— *Sarcocarpium*—parenchymatous, fleshy and very thick in some fruits,

xxviii

The vascular body of the pericarp, and composed of vessels that nourish the fruit.

Necessarily exists in all fruits.

Alone able to furnish nutrition to the seed.

— *Endocarpium*—the interior semeniferous membrane.

Generally thin, but sometimes thickened by a part of the sarcocarp becoming osseous and a nut.

— *Base*.

— *Apex*—as it relates to the organization.

— As it relates to the mass, from whence the geometric apex is obtained.

Pericarpian Appendages.

* *External.*

— *Ala*—thin crests or membranous lamina on the surface of some pericarps. (See Fruits Samara.)

— *Corona*—the dried calyx crowning the *Pomaceä*, &c.

— *Pappus*—calyx ? (partial) of Syngenesiä.

— *Cauda*—the lengthened style covered with down (*Clematis*.)

— *Valves*—pannels whose union composes most pericarps.

Parts of certain pericarps distinct, and capable of being separated at maturity, without tearing.

— (true) symmetric sutures, indicating distinct pannels.

Generally all separate clearly at maturity (dehiscence.)

Fruits are considered to have no more valves than free pannels, but some are composed of two agglutinated inseparable valves.

— *Sutura*—lines formed by the juxta-position of 2 valves.

** *Internal.*

— *Dissepimentum*—diaphragms dividing the interior cavity of the pericarp into cells.

Some are produced by the entering margins of the valves (*valvis introflexis*.)

Some by a simple enlargement of the placentary.

Some by simple lamina of the cellular tissue.

A prolongation of the endocarp and sarcocarp, and generally membranous.

— *Loculi*—empty spaces in the fruit destined to receive the seed formed by the alternate replications of the endocarp.

When the partitions are formed by the entering valves, each cell is circumscribed by 1 or 2 valves.

In the first case the valve is bent in length, and its 2 edges advance to gain the axis of the fruit.

XXIX

— *Cocculus*—a sort of cell opening at maturity by means of a membranous spring, situate at its base.

— *Columella*—real axis.

— *Septifera*—bears the partitions after dehiscence whether the valves fall or are only disapproximated.

PULPA—the soft demiliquid matter in the inside of the cells covering the seeds.

PLACENTARIUM—union of placentas.

Part of the internal paries (endocarp) of the pericarp to which the seeds are fixed. Essentially constituted by the conducting and nourishing vessels.

11. PLACENTA—agglutinated intimately with the endocarp.

The seeds are fixed to it by the funicle.

Originates from the sarcocarp, and has an immediate communication with it by an orifice or scar.

Developes itself in the centre of the pericarp like an axis, column, cone, &c.

Or extents in lamina.

Or lengthens into nervules on the paries, or on the margins of the valves of the partitions.

— *Form*—spheric, globular, cylindric, a line or point, 3-gonous or radiate.

— *Consistence*—fleshy, coriaceous or corky.

Sometimes in form of a central column fixed at both ends, serving at the same time to support the seeds and also the partitions.

Or covers whole face of valves and partitions, or extends to edges or middle of each valve.

— *Position*—central, axile, parietal, 1-lateral, 2-lateral.

Generally occupies the central angles of cells in plurilocular pericarps.

RETINACULA—crooked points originating from the placenta and holding the seed, but not bearing them (*Acanthaceä*.)

12. FUNICULUS—a fleshy body.

A sheath containing the vascular system of communication, and uniting the pericarp to the seed.

A portion of the substance of the placenta.

Every visible process of the placenta bearing a seed.

The endocarp is pierced where it fixes, to allow a passage from the sarcocarp.

It is called trophosperm when bearing only 1 seed, and podosperm when forming prolongations, each bearing a seed.

Generally supports only one seed.

XXX

By its means the seed is connected with the mother-plant, and derives its nourishment.

Filiform (umbilic cord.)

Sometimes increases as the fruit approaches maturity.

Generally shorter than seed.

Sometimes of equal length to the seed, or much longer.

Generally thread-form, or like a fungous peduncle.

Two-branched (Fraxinus, Liriodendron, Magnolia.)

Course or Direction.—Insertion.

BASE (Placenta.) APEX (Hile.)

1. Base of the fruit.....
 1. base (lower extremity) of seed.
 2. vertex (upper „) „ (Prunus, &c.)
 3. middle (ventral part.)
 4. middle (dorsal part) in such a manner that the cord ascends above the vertex of the seed, and being afterwards reflected, enters the hole in the back of the seed (Vitis.)
2. Vertex of the fruit....
 1. upper extremity of seed.
 2. lower „ „ .
3. Axis of the fruit.....
 1. vertex of the seed.
 2. base „ .
 3. inner horizontal extremity.
 4. middle part.
4. Paries of fruit.....
 1. acuminate part of seed.
 2. obtuse „ .
 3. middle of side between the two extremities.

Its course in drupaceous and nucamentaceous fruits (and in some bony seeds) is remarkable, running in a furrow inscribed on these bony integuments, and passing to the middle or remotest region of the seed, and there connecting with it. (Prunus, &c.)

In various soft seeds it is concealed by their spermodermis, (coat) and runs a long way between its membranes, coming by windings to the point of insertion (Liriodendron, Swietenia, &c.)

Setaceous (in umbeliferä.)

13. ARILLUS—an expansion of the funicle covering more or less of the seed. Only adheres at the contour of the hile, and remains fixed to it after dissemination.

Found only in a few seeds.

Never found on seeds of polypetalous flowers.

Considered as belonging the pericarp by Richard.

Membranous or fleshy.

Sometimes adheres to funicle, forming a cup which receives the base of the seed.

14. PELLICULA—a thin membrane entirely covering some seeds.

Bears hairs with which the seeds seems clothed (*Gossypium*.)

— *Coma*—a tuft of hairs at one end of the seed.

15. OVULA—appear in the cellular tissue of the ovary.

This tissue generally detaches itself, and is destroyed by the ovules disapproxi-
mating each other.

Are small, round, greenish, smooth, shining bodies.

They are all fixed to the placentary and sometimes by the intervention of the
funicle, and receive the extremity of the conducting and nourishing vessels at
the hile.

Often many more ovules are found in the ovary than seeds in the fruit, caused
by the abortion of some of them.

When the style and stigma are faded, vascular lineaments, the first unequivocal
indication of the presence of the embryo, are developed in the fissure of each
ovule.

Sometimes bulbiles develop in the cavity of the ovary instead of ovules.

The number varies according to the species.

Some ovaries never contain more than one.

Some contain many thousands.

(*N.* The ovary ought to be dissected to know the primitive character of the
fruit, as the form, number of cells and seeds are often changed in passing to the
fruit-state, (*Æsculus*, &c.)

— (*Placentation*.)

Opposite, arising from same point.

Superposed, one above another.

Alternate.

1—2 serial.

Spersed.

Conglobate.

15.* SEMEN.—the ovule fecundated.

Its essential function is to contain the embryo.

Essentially composed of 2 distinct parts.

— Episperm. (Spermodermis.)

— Nucleus.

** Regions when in its natural state, in and fixed to the pericarp.*

REGIONS.—(adjective parts.)

Its true face is that looking to the axis of the pericarp, and the other face looking to the internal coat of the endocarp (paries) is its back.

Its margin is the part joining these two faces.

If the hile is on the margin, the seed is called compressed, but if it is on either face, depressed.

*** Regions as to itself when out of and independent of the pericarp,*

REGIONS.—*Base*—the end where the hile is placed.

— *Vertex*—the region directly opposite the former.

— *Belly*—hile placed in the middle between the two ends, (or in the margin of a rather round or compressed seed.)

— *Back*—the part opposite the last.

— *Sides*—the remaining regions.

**** Position when in its natural state, in and fixed to the pericarp,*

POSITION—relative to the axis of the pericarp.

— *Erect*—every seed fixed at the base of the pericarp or at the base of a cell, when it is multilocular, is said to be erect.

— *Reversed, inverse or inverted**—seed fixed to the top of pericarp.

(*N.* In these two cases the placenta occupies the base or apex of the cell.)

— *Ascendent*—if the placenta is axile or parietal, and the seed directs its true apex (point diametrically opposite to its point of fixation) towards the upper part of the cell, it is said to be ascendent.

— *Suspended*—if its apex looks to the base of the cell, it is said to be suspended.

— *Peritropal*—if its rational axis (line considered as passing from its base to apex) is transverse relative to the internal coat (paries) of the pericarp, it is called peritropal.

16. SPERMODERMIS—the envelope surrounding the nucleus.

The proper membrane or tegmen of seed.

Grows with the ovules.

* Inverted seeds are in some respects pendulous.

But every pendulous seed (fixed by the upper end) is not an inverted one.

Erect seeds may be pendulous (as hanging by top from funicle,) *Ruscus*, &c.

(*N.* Pendulous indicates insertion and not situation.)

XXXIII

Not very apparent till ovary is become fruit.

Receives the vessels of the funicle.

Consists of three layers—1. Testa.

2. Sarcodermis.

3. Endopleura.

All three rarely found on same seed.

Limits of the three often not decisive.

— 1. *Testa*—a sack without valves or sutures.

Always covers the endopleura.

No certain characters to distinguish it from the testa of nuts and nutlets, or even from the endopleura.

Generally smooth and scaly.

— 2. *Sarcodermis*—a scarcely visible parenchyma, lying under the testa, in which all the vessels from the superficies pass to attain the hile.

When very pulpy, the seeds are called *Semina Baccata*.

— 3. *Endopleura*—applied closely to the nucleus and often confounded with the sarcodermis, from which it is scarcely separable.

Receives the end of the funicle.

Derives its origin from the interior portion of the funicle, which, perforating the testa, disperses in ramifications, which latter being connected by a membrane form the endopleura.

Has no valves or sutures.

17. *CICATRICULA*—point on the surface of the spermodermis, to which the funicle is fixed, and through which the vessels of the placenta communicate with those of the seminal tunica.

Its centre always represents the base of the seed, and its geometric apex is the opposite point.

Aspect and extent various.

— *Spile* (Hile) of Grasses.

OMPHALODIUM—protuberant point, generally situate in the middle of the hile, at which the nourishing vessels end.

MICROPYLA—a point situated on the side of the hile, which appears to be the mark of the place where the conducting vessels of fecundation end.

18. *CHALAZA*, (internal hile)—point where the raphe ends on the endopleura.

When no raphe it is generally under (inside) the hile.

Indicates the natural and true apex of the seed.

XXXIV

Point of union of main vessels of spermodermis.

Opaque and of different colour from the surface near it.

EMBRYOSTEGIUM—a swelling on the surface of some seeds at a distance from the hile, corresponding with the radicle, and falling off in germination, to afford a passage for the embryo.

18. RAPHA*—a sheath containing the vascular system and running from the hile to the chalaza.

A projecting line, often elongated, and reaching from one end of the spermodermis to the other. (Aurantium.)

Appears like elevated fillets.

Prolongation of the vessels of the funicle through the hile to the chalaza.

Runs in the thickness of the testa and pierces its internal face at a point distant from the hile, and there fixes to the endopleura, forming the chalaza.

Where there is no testa it appears on the surface of the endopleura, but where there is both testa and endopleura, it can only be seen by dissecting these two parts.

19. NUCLEUS—assemblage of organs contained in the spermoderm.

Has no vascular connection with it.

Bears the hile (Nyctago, Conifera, Avicennea, &c.)

No seed without it.

Sometimes formed entirely of the embryo (when no perisperm is present.)

20. PERISPERMUM—a part of the nucleus, not embryo.

Seldom adheres with embryo.

Presents no vascular organization.

Does not communicate by any vascular ramification with embryo.

Wanting in many seeds.

— *Consistence*—oleaginous, cartilaginous, horny, ligneous, fleshy, feculent, granular, &c.

An accessory bound round or at side of embryo.

Furnishes the embryo during germination with nourishment like that of the vitellus in the chick.

Of cellular tissue.

Sometimes so thin as to be taken for a tunic.

* Mirbel connects the rapha with the chalaza, under the generic title Prostypium.

XXXV

Diminishes by germination and so is distinguished from the embryo which augments!

Easily separable.

Always single.

Fixes the natural place of many a milia.

VITELLUS—every part adhering to the embryo not cotyledons, plumule or radicle.

Not extending without the seed.

Fades during germination.

(*N.* considered an imaginary being by some.)

CHORION—pulposus liquor, which, before fecundation, appears to form the whole kernel, and which disappears before maturity.

Liquid state of nucleus.

— *Sacculus Coliquamenta*—vesicle of the chorion.

SACK—the end of each funicle develops into a sack (ovule) containing the first lineament of the new plant.

AMNIOS—elaborated in the chorion.

A vitreous, gelatinous or emulsive liquor, not visible till after fecundation, in which the embryo swims, and appears to contribute to its nutrition; the concrete residuum of which forms the perisperm.

This liquor is sometimes naked, and sometimes inclosed in a membrane called the sack of the amnios.

(*N.* The milk of the cocoa-nut is the amnios.)

21. EMBRYO—the most essential part of a vegetable.

A small organized body.

Appears where the funicle perforates the tegmen.

Rudiment of young plant.

Has at first a connection with the seminal envelopes.

Detaches at maturity from the surrounding parts.

Some seeds contain more than one (superfetation.)

Organization very simple.

Must be dissected and often subjected to germination to discover the parts.

The parts in dicotyledons more easily distinguished than those in monocotyledons.

Exists in the perfect seed after fecundation.

Should be examined for botanic purposes in a state of inaction.

— *In 1-cotyledons*—undivided.

No slit or incision.

Always lateral.

Radicle in a coleorhiza.

Gemmule inside.

Pileole (or sheath.)

— *In 2-cotyledons*—radical end always forms base of embryo.

BLASTEMA. (M.)—the embryo strip of its cotyledons

Consists of Collum, Plumula and Radicle.

COLLUM—intermediary part between the plumule and radicle.

Difficult to define till germination.

22. PLUMULA—generally naked and projecting.

Or coleoptiled.

Cannot be discovered in many embryos till germination.

The first rudiments of the parts to be developed in light and air.

Separated from cotyledons by a Cauliculus.

Produces the stem and leaves in its development.

Composed of Cauliculus and Gemmula.

GEMMULA—a small bud terminating the cauliculus.

The first bud of the infant plant.

Formed of the primordial leaves.

CAULICULUS—rudiment of the stem.

A prolongation of the radicle.

Not always manifest.

COLEOPTILA—originates from the cotyledons and envelopes base of plumule.

A thin sheath covering the gemmule (plumule.)

A membranous or fleshy sheath.

23. RADICULA—part of the embryo destined to become the root.

Always directed to the side opposite the chalaza.

Receives the lower extremity of all the vascular system of the embryo.

Always simple and undivided in repose (before germination.)

Oft divides into several radicellas in its development.

Many grasses have three or more.

Naked or hid in a coleorhiz (or fleshy pocket closed on all sides.)

Direction often difficult to establish.

Generally respects the circumference, where the embryostege is placed, (and the plumule and cotyledons the centre.)

Its situation must be considered as it respects the hile (not as it respects the fruit, according to Gärtner.*)

Almost always directed to the hile !

(Whence radical superior is generally equal to seed pendant in the capsule and „ inferior, equal to seed erect in the capsule.)

Cylindric or conic.

Generally appears as a white spot (speck) on surface of nucleus.

In many genera, it previously requires to know the seed-annexation.

— In 1-cotyledons—a simple mamelon.

— In 2-cotyledons—rarely coleorhized.

Not always conic but cylindric, globular or clavate.

EMBRYO, (Direction of parts)—1. *Homotropus*—radicle end points to hile.

(N. It may be more or less curved.)

— 2. *Orthotropus*—rectilinear.

— 3. *Antitropus*—cotyledonous end points to hile.

— 4. *Amphitropus*—curved, so that the two ends close and both point to hile.

COLEORHIZA—a small appendage sheath-like, surrounding the origin of some radicles. (Gramineä.)

A fleshy sack inclosing the radicle like a sheath.

Hides the radicle, which then is only discoverable by germination.

Detaches of itself from each radicle.

Richard forms four grand divisions of vegetables from the radicle being naked or in a coleorhiza.

— *Arhizä*—no embryo, no radicle.

— 2. *Endorhizä*—radicle hid by a coleorhiza, under which are one or several radical tubercles, which tear it in germination and change into roots.

— 3. *Synorhizä*—when embodied with perisperm (a rare case.)

— 4. *Exorhizä*—radicle exterior, naked and becoming itself the root.

* RADICULA, (supera, ascendens)—pointing to the vertex of the fruit.

(infera, descendens)— „ base of the fruit.

(centripeta)— „ centre of the fruit.

(centrifuga)— „ peries of the fruit.

(vaga)— „ variously.

XXXVIII

COTYLEDONARIUM—cotyledons approached and agglutinated together, making a single mass.

An intermediate part.

Simple or divided into two parts (or cotyledons.)

From whence the divisions of vegetables into two great classes.

— 1. *Monocotyledones*—embryo with one cotyledon.

— 2. *Dicotyledones*— „ two cotyledons united base to base.

(N. Sometimes there are more than two in the same embryo.)

COTYLEDONES—first leaves of embryo visible in the seed, furnishing it with nourishment during germination.

Situate above the Collum, (never on it.)

United at base.

Generally thick and fleshy when no perisperm is present, and furnish an aliment ready prepared.

Thin and foliaceous when a perisperm is present, and prepare an aliment at the instant of birth.

Not generally the form of common leaves;

— *Hypogei*—hid under the earth.

— *Epigei*—out of the earth.

Constitutes the major part of embryos whose radicle and plumule are continuous.

Form cylindric, conic, fungiform, swollen, broad and flat, ovate and split lengthways, &c.

— *When only one*—always lateral with respect to the axis of the Blastema.

FOLIA—*primordialea*—small leaves which, besides the cotyledons, are visible in the embryo.

In *Scirpus* (called pileole) closed and covers the other leaves of the gemmule like an extinguisher.

SYNZYGIA—point of junction of opposite cotyledons.

LOBULE—upper cotyledon when they are alternate.

Vascular System.

25. VASCULAR SYSTEM—of an organized body must necessarily be covered.

VESSELS OF PLANTS—always closed at both ends, and pierced with lateral openings for the passage of the fluids.

XXXIX

ORGANS—an organ which has a proper (peculiar) form, position, structure and functions belonging to itself *only*, cannot be considered as the continuation of another organ, though it have an immediate communication with it.

VESSELS.

1 * *From the Parent and ending at the Receptacle.*

VESSELS OF THE WOOD—end at the base of the pistil.

2 * *From the Receptacle of the Fruit.*

VESSELS—of the parent plant penetrate the pistil at its base, and pursue different routes.

Run into the placenta.

NOURISHING VESSELS—carry the nutritive juices to the ovules.

3 * *From the Placenta and on the inner face of Endocarp.*

PARIETAL VESSELS—ramify and cover the internal face of the endocarp and form its skeleton.

4 * *From the Chalaza on the Endopleura.*

FUNICULAR VESSELS—ramifications of the nourishing vessels from the chalaza, united by a membrane, constitute the endopleura.

5 * *From the Sacculus to the Embryo?*

6 * *From the Plumule to the Cotyledons.*

SEMINAL RADICELS—small vessels from the plumule into the cotyledons.

7 * *Connected with the Style and Stigma.*

EXCRETORY CANAL—longitudinal perforation of the style and stigma.

CONDUCTING VESSELS—descend from the stigma and run to the placenta?

Serve the act of fecundation?

FALSE CONDUCTORS—in adhering ovaries the parietal vessels ascend in distinct bundles to the stigma concurrently with the nervules, (but not united.)

NERVULES—are the thread-like ramifications of the conducting and nourishing vessels.

Are sometimes united in a body.

Or are separate and form several distinct branches applied to the internal face of the endocarp or dissepiments.

Or they cross the cavity like a slender cord fixed only by their ends.

Ascend the stigma from the point of meeting in the placenta, and serve the act of fecundation.

Generally equal to the branches of the placenta, but oft at a distance from their points of departure.

The number of styles is generally equal to the branches of the placenta, and each style receives a nervule.

Sometimes it appears as if there was only one style, though the placenta is branched into an equal number of nervules; but the single style is to be considered as several united.

NOURISHING AND CONDUCTING VESSELS—united in the exterior of the placenta, compose vascular fascicles (nervules) which constitute the interior of the funicle.

CHORDA PISTILLARIS—assemblage of one or several fillets (fibres or vessels) which pass from style to ovules, and carry fecundation to them.

Their disposition determines the general structure of the fruit.

Visible in the unfecundated ovaries of *Lychnis* and other 1-celled fruits of *Caryophyllæ*.

In *Citrus* (a multilocular fruit) it is central and the seeds fixed to it—composed of as many partial cordets as cells, and may be pursued from their insertion on the receptacle to the stigma.

I state most of the above vessels as I find them mentioned in recent and respectable authors.

The subject is curious and deserves the farther attention of the naturalist.

NOMENCLATURAL CONSPECTUS

TO THE

CARPOLOGIC CONCORDANCE.

DESVAUX. 1.	DECANDOLLE 2.	MIRBEL. 3.	RICHARD. 4.	VARIOUS. 5.
	A. <i>Pseudospermes.</i> <i>Semina nuda. L.</i>	<i>Carcerulares.</i>	<i>Fruit dry and indehiscent.</i>	
	1—(or few) seed- ed, not opening spontaneously at maturity. Pericarpso closely united to seed as to appear but one enve- lope.	Fruit simple and remaining closed.	Generally oligo- sperinous. Pericarp general- ly thin or ad- hering to the proper tegu- ment of the seed.	Simple, 1 ovary from a single flower.

1 * *Carcerulous Coronate.*

13. *Stephanium*....*Achäna* (non D.)..*Cypselä*.....*Akenium*.....*Achäna*. N.
Sacellus.....*Achäna*. F. F.
Akenium. Lk.

2 * *Carcerulous Incoronate.*

21. *Car*.....*Car*.....*Cerio*.....*Cariopsis*.....
Cerium.....
33. *Achäna* (non D.C.) (*Utriculus*)....(*Cerio*).....(*Cariopsis*).....
Thecidium.....
45. *Catoclesium*....(*Utriculus*)....(*Carcerula*)....(*Akenium*).....
54. *Dyclesium*.....S.(*Carcerula*)(*Akenium*)*Scleranthum*. Mö.
66. *Xylodium*.....X.....(*Carcerula*)(*Akenium*)*Nux autor*.

	DESVAUX. 1.	DECANDOLLE 2.	MIRBEL. 3.	RICHARD. 4.	VARIOUS. 5.
FLOWERS NAKED & FRUIT-SITE DUBIOUS.—NUCIFEROUS.— FUNICLED. } IN SOME.					
* <i>Incoronate.</i>					
7	28. Strobilus.....S.....S.....S.....S. or Conus.				
8	(Strobilus).....G.....(Strobilus).....(Strobilus).....Galbanus. G.				
9	7. Nuc..... Nucula.....Calybio.....(Glans).....Nux autor.				
2 * <i>Coronate.</i>					
10	8. G.....G.....(Calybio).....G.....Glans.				
3 * <i>Winged.</i>					
11	9. Pterodium.....S.....Pterides.....S.....Samara. G. (Carcerula.)				
A * BACCA SICCA, Or, <i>Indehiscent Capsule.</i> Polysperm, dry, (not succulent.)					
12	10. AmphisarcaA.....(Carcerula).....(Akentum.)				
13	11. Carcerulus.....Carcerulus.....Carcerula.....Carcerulus.				
	B. <i>Gynobasici.</i>	<i>Cenobis.</i> <i>Cenobionares.</i> <i>Exostylares.</i>	<i>Gynobasici.</i>		
	Cells (cremes. M.) so far separated that they appear distinct fruits, but they are all articulated on a dilated gyno- base, which is the base of a single style. Simple, but com- posed of four cells (or cremes)	Compound fruits from ovaries not style-bearing.	Cells so far sepa- rated that they seem to consti- tute so many distinct fruits. N. Unity of style necessitates the unity of ovary, so that it is an error to reckon several ovaries to Labiatä, Borragineä, Apocynä, &c. (R. Dict.)		

DESVAUX. 1.	DECANDOLLE 2.	MIRBEL. 3.	RICHARD. 4.	VARIOUS. 5.
31. Sarcobasis, (see Compound Succulents.)				
* <i>Coronate.</i>				
14	24. M.....	Microbasis.....	Exostylus.....	Gynobasici.
			Pol. „	
			Cenobium.....	(Akenium.)
	(indehiscent, 4- celled, on a gynophore.)			
		C. <i>Capsulares.</i> <i>Dehiscentes.</i>	<i>Capsulares.</i>	<i>Dehiscent, dry.</i>
		Dry and inclose many seeds. Open spontane- ously at matu- rity.	Simple, opening at maturity.	
* <i>Incoronate.</i>				
15	12. U.....	U.....	(<i>Carcerula</i>).....	(<i>Akenium</i>) Utriculus. G. Cystidium. Lk.
16	20. Pyxid.....	Pyxid.....	Pyxis.....	Pyxid..... Pyxidium. Ehr. Capsula Circum- cisa. L.
17	18. C.....	C.....	C.....	C..... Capsula.
* * <i>Coronate.</i>				
18	12. Diplostegia....	D.....	(<i>Capsula</i>).....	(<i>Capsula</i>)..... Capsula infera. Aut.
DIERESILEI.				
<i>Simple and divided into several Coccums at maturity.</i>				
19	19. Sterigium.....	D.....	Dieresilis.....	(<i>Capsula</i> ?).... Coccum. G. (Cocceum.)
20	17. R.....	R.....	Regmatus.....	Elaterium..... Capsula, 2-mul- (Cocceum.) tilocular.

	DESVAUX. 1.	DECANDOLLE. 2.	MIRBEL.	RICHARD. 4.	VARIOUS. 5.
21	23. Carpodium ..	Polachena	Cremocarpium	Polachenium.	
		(Locus.)	(Coccum.)		
<i>Siliquoid, Leguminoid.</i>					
22	13. C	F	(Capsula.)	(Capsula.)	Conceptaculum apt. Folliculus. G.
23	14. S	S	S	S	Siliqua. L. (& Silicula) „ vera & spuria. Mö.
24	15. L	L	L	L	Legumen. L. „ & Lome- tum. Gä.
25	16. Hemegyris ..	H	(Capsula.)	(Capsula.)	Nux autot (Impro- perly.)
		D. Multiplices.	Etäriónares. El. Chorióñares. Bul	Compound Fruits.	
		Union of several simple fruits (ovaries) but all from one flower.	Compound fruits from ovaries bearing the styles.	Result from the union of several pistils in the same flower.	
		Dimin. Carpellum.	Chorio.		
<i>Compound Dry. Incoronate.</i>					
26	22. F	B	Bifolliculus	Folliculus.	
		(Folliculus)	(Folliculus.)		
27	25. Pliocarpium ..	P	Etärio	(Syncarpium) ...	Legumoid. P.W.W. Polychorium. Multisiliquä.
		(Distinct cells form distinct ovaries.) ..	(Camara.)	(Camara.)	(Akenium.)
28	26. Polysecus	Polichorio	Polychorio	(Syncarpium) ...	Carceruloid. P.W.W. Polychorionides. (some.)
		(Camara.)	(Camara.)	(Akenium.)	
29	27. Amalthes	(Cynarhoden) ...	(Polichorio.)	(Syncarpium) ..	Carceruloid. P.W.W. (dry ovaries.) (Camara.) (some.)

DESVAUX. 1.	DECANDOLLE. 2.	MIRBEL. 3.	RICHARD. 4.	VARIOUS. 5.
----------------	-------------------	---------------	----------------	----------------

	E. <i>Succulent.</i> <i>Carnosi.</i>	a. * <i>Drupac.</i>	<i>Carnos.</i>	
	Sarcocarp soft and of a pulpy or fleshy con- sistence. Inclose only a small number of seeds, and do not open of themselves at maturity.	Simple, succulent inclosing 1 nut.		

* *Drupaceous Incoronate.*

3035. D.....D.....D.....D.....Drupa.

(Drupeola.)

31 (Drupa.)....Nax.....(Drupa.).....N.

3236. N.....N.....(Drupa.).....Nuculanum.

** *Drupaceous Coronate.*

38 (Drupa.)....(Nax.).....(Drupa.).....(Nax.).....Tryma. N.

3445. Syncarpa(non R.)Ficus.....Syconus.....Syconus.....Drupa.G.(in Ficus).

(Cariopsis.) (Carcera, Drupeola.)

		b. * * <i>Bacca.</i>		
		Simple, succulent, containing many separated seeds.		
		(Bacilla.)		

* *Baccaceous Incoronate.*

35 (Syncarpa)...Syncarpa.....Sorosus.....Sor.....Capsula utriculosa.G.

(Utricular.)

(in Morus.)

3638. Arceuthide....Bacca(improperly)..(Strobilus)....(Strobilus.)

3724. Hesperidium ..Aurantium(Bacca.).....H.....Bacca corticata.

3829. Sphalerocarpium. (Achena.)...(Carcera.).....(Achena.)

	DESVAUX. 1.	DECANDOLLE 2.	MIRBEL. 3.	RICHARD. 4.	VARIOUS. 5.
39	30. B.....	B.....	B.....	B.....	Bacca aut. ,, vera & spuria. Mö. ,, & acinus. G.
	** <i>Baccaceous Coronate.</i>				
40	31. Acrosarcum... (Bacca.) (Bacca.) (Bacca.)		
41	32. Peponida.....	Peponida	Pepo Peponida	Pepo. L. Peponium Brot.
42	39. Balausta.....	B.....	(Carceraula.) B.	

F.—COMPOUND SUCCULENT.

* *Incoronate.*

- 43 42. S..... Sarcobasis.... Etörio (formerly).... Gynobasici ?
(5 bacciform cells
from distinct
ovaries.)
(See *Gynobasici* (D. C.) for the classic character.)
- 44 41. Erythrostomum..Er..... Etörio. (some)..... (*Syncarpium*.)
(conic placenta
bearing bacci-
form ovaries.) (Utriculus.).. (Camara.)..... (Drupeola.)
- 45 43. Baccaularius.... (*Erythrost.*).. (Etörio)..... (*Syncarpium*.)
(bacciform ovaries.)
- 46 44. Asimina (*Erythrost.*).. (Etörio) (some)..... (*Syncarpium*.)
(bacciform ovaries.) (Carpellum.) (Camara.)

BACCACEOUS, OVARY PARIETAL.

** *Coronate.*

† *Apyreniferous.*

- 47 38. Melonidium.... Pomum. a.. Pyridium..... Melonida cartilaginea... Antrum. Mö.
(ovaries embodiad
with calyx.) (Semen.)

DESVAUX. 1.	DECANDOLLE 2.	MIRBEL. 3.	RICHARD. 4.	VARIOUS. 5.
†† <i>Pyreniferous.</i>				
4837. <i>Pyrenarius</i> Pomum. b.... (<i>Pyridium</i>)..... Melonida-ossa. Drupoid. P.W.W.				
(cells with ligneus endocarp.)		(Semen.)		
4940. <i>Cynarodon</i> C..... (<i>Etörio</i>)..... (<i>Melonida</i>)				
(ovaries in a fleshy calyx.)	(Utriculus.)	(Camara.)		

Characters of the Genera enumerated in the above Conspectus.

1 * *Simple, indehiscent, (carcerulous) dry.*

1. STEPHANÆUM—1-seeded, of variable consistence, never ligneous, enveloped by the calyx to which it *adheres*.

N. Presents the characters of *Achena*, (*D.*) but the pericarp is agglutinated with the calyx and the sepals, or the divisions of the calyx are on the apex composing a sort of crown to it. *Cypsela* (*M.*) only belongs to a single family of the *Composeæ*, while my *Stephanæum* belongs to several. (*D.*)

Achæna—generally dry.

Pericarp adhering more or less closely, both with the proper envelope of the seed and with the tube of the calyx. (*D. C.*)

Cypsela—The pappus is the limb of the calyx. (*M.*)

Akenium.—Pericarp distinct from the proper tegument of the seed.

Embryo eperispermic, (no perisperm,) homotropous or following the same direction as the seed.

Radicle corresponding with hile.

Generally crowned by the pappus. (*R.*)

2. CARIOPSIS—1-seeded. Episperm strongly adhering to endocarp. (*D.*)
Indehiscent. Pericarp very thin, and so closely connected with the seed that it cannot be distinguished from it. (*R.*)

Endosperm (perisperm) large, farinaceous.

Embryo extraneous. (*R.*)

Cerio—Pericarp containing a perisperm seed, whose embryo is thrown to one side. (*M.*)

3. ACHENA—1-seeded.

Pericarp coriaceous, (not ligneous) not contracting adherence with the episperm, (spermoderm.)

N. Approaches *Stephanæum*, but is free.—*Thecidium* (M.) appears to be only an Achena whose pericarp is very hard and sometimes very thick, as in several *Chenopodeä*. (D.)

4. CATOCLESIUM—1-seeded.

Pericarp coriaceous, (not ligneous) covered by the calyx, which is considerably developed but not fleshy.

N. The calyx is so much developed as to present the appearance of a pericarp, particularly in *Chenopodeä*, and more especially in some genera of this family.

Sacellus (M.) is connected with this by *Salzola*, and with *Achena*. (D.) by the other characters given by M. in his characteristic phrase. (D.)

5. DYCLESIUM—1-seeded, covered by the base of corol which has become coriaceous. (D.)

Schleranthum.—

Composed of seeds agglutinated with base of perigone: indurated and persistent. (D. C.)

6. XYLODIUM—not symmetric, 1-seeded, ligneous, borne on a swollen, fleshy gynophore.

N. The name *Nut* was improperly given to the pericarp of *Cassuvium* and *Anacardium*, which have no affinity with the sorts of fruit indicated by authors under this name. (D.)

No cupule. (D. C.)

7. STROBILUS.—Composed of ligneous scales (amphanths) imbricated in various forms, bearing a dry fruit in their axillas, whose pericarp is more or less solid. Placed in sorose by M. (D.)

N. The true *Strobilus* exists only in the Coniferä.

The *Galbalus* (Gä.) is only a spheric strobile.

In *Proteä* & *Casuarinä*, the assemblage of fruits presents the appearance of a *Strobile*, but in the first it is an assemblage of *Hemigyres*, and in the second of aggregated capsules.

In *Ananas*, the strobile-form fruit results from the union of numerous *Acrosarses*. (D.)

Composed of a great number of membranous *utricles*, hid in the axils of prominent bractes much developed, dry and disposed in the form of a cone. (D. C.)

Union of covered fruits (calybios or carcerulas) originating from several flowers, and inclosed in scales, whose union forms a conic or globular body. (M.)

8. GALBALUS—differing only from *cone* by the bracteas being much enlarged at top, disposed in the form of a sphere and scarcely opening at maturity. (D. C.)

Pericarp suberous, oval, composed of peltate scales, ray-form, mucronate in centre, at apex of which adhere 4—several seeds. (Gä.)*

9. NUCULA—1-seeded, generally.

Pericarp symmetric, ligneous, with a membranous, herbaceous calyx (cupule, amphanth) at its base.

N. Peculiar to *Corylus*. Has apparently the same organization as the *Glans* and the *Sphalerocarp* as in *Taxus*, but it ought clearly to be distinguished from them, otherwise it should be called *Glans*, because it has a *cupula* (amphanth) like those cited, which would introduce a confusion in botanical language. The term *Nut* of authors is vague, and is any thing dry and ligneous. (D.)

Envelope osseous, 1-celled, 1-seeded, not opening at maturity.

Pericarp scarcely distinct from seed, oft embossed in an involucre. (D. C.)

10. GLANS—generally 1-seeded.

Pericarp coriaceous, applied closely to the episperm, provided with a calyx or particular involucre (amphanth) which covers it wholly or in part, called *cupule* in *Quercus*, and *Involucre* in *Fagus* and *Custanea*.

Is found in *Fagus* and several *Laurels*. (D.)

Fleshy, feculent, 1-celled, 1-seeded. Pericarp adhering closely to seed, which is inclosed and articulated by its base in a coriaceous cupula (amphanth) formed by the scales of the involucre. (D. C.)

One-celled, 1-seeded (by the constant abortion of several ovules) always originating from an inferior, plurilocular, polysperm ovary, whose pericarp, closely united to the seed, always presents, at its apex, very small dents of the limb of the calyx, and is inclosed in part (rarely totally) in a sort of scaly involucre (cupula.)

Form very variable.

Cupula.—Scaly and very short, or much developed, covering nearly the whole of the fruit. (R.)

* CALYBIO—formed of one or several glans, (carcerulä) contained in a cupule, (the Nucula and Glans of D. C.)

N. Cupula, the cup.

Glans, the carpel. (M.)

11. **PTERODIUM**—1—2-locular, 1-seeded, sometimes polyspermous, bordered by a more or less prominent membrane (*Pterides*, *Ala*, *Pteregium*) on its angles. (D.)

Oligospermous, coriaceous, much compressed, membranous, 1—2-indehiscent-celled. (R.)

12. **AMPHISARCA**—multilocular. Epicarp, ligneous. Endocarp, pulpy. (N. Rare.)

Polysperm. (D. C.)

13. **CARCERULUS**—multilocular. Cells confluent or distinct.

Pericarp dry, indehiscent. (D.)

Several-seeded. (D. C.)

Capsular.

Very variable, but different from *Cypsela* and *Cerio*.

Ala (pterigium) when winged. (M.)

14. **MICROBASIS**—indehiscent, borne on a fleshy gynophore (gynobase R.) distinctly 4-celled, 1-seeded, produced from a single ovary, borne on a disk. Endocarp, coriaceous. (D.)

Gynobase very small, scarcely fleshy, 4-celled, scarcely distinct at floration. (D. C.)

Composed of several *cremes*, (pericarpian cells) without valves or sutures, originating from ovaries not bearing styles. (M.)

Cells so remote from each other, that they appear to constitute so many separate fruits. (R.)

Gynobasici, } Four akenes, united at base on a common receptacle (*Labiata*.)
Polakenium, } (R.)

2 ** Simple, dehiscent, (capsular) dry.

15. **UTRICULUS**—1-spermous. Pericarp membranous, scarcely apparent, and never united to the episperm, which is always more or less crustaceous. Dehiscence various, sometimes horizontal. (D.)

Not adhering to calyx. Pericarp little apparent, yet the funicle visible. (D.C.)
N. Mirbel confuses *Utriculus*, *Scleranthum*, and *Samara*, with his *Carcerula*. (D.)

16. **PYXIDIUM**—presents the characters of a capsule, but opens horizontally or circularly. (D.)

Dry, globular, opening in the middle, by means of a transverse, horizontal fissure, and divided into 2 hemispheric valves. (D. C.)

Opening by a transverse suture into 2 superposed valves. (R.)

Amphora, the lower valve, }
Operculum, "upper " , } (D. C.)

17. CAPSULA—a little fleshy, dry at maturity, never ligneous.

Dehiscence regular, but not always symmetric.

N. Very variable as to number of cells, seeds and their points of attach.—
 Difficult to characterise. Comprehends all the simple, dried fruits not embraced by the other definitions (of opening capsules.) Unfortunately vague. (D.)

18. DIPLOSTEGIA—dry, rarely 1-celled, covered by the calyx.

1. Partable, those that divide into several parts by the separation of the valves.

2. Those not dehiscent but by an opening at the base at maturation.

Sometimes takes a ligneous consistency. (D.)

Dehiscent, adhering to calyx. (D. C.)

19. STERIGIUM—multilocular. Cell, 1-polyspermous, sometimes indehiscent, distinct, produced by a single ovary and adhering to a common axis or persisting columella, and more or less projecting.

N. The species of fruit I establish has no affinity with *Synochorio*. M. (D.)

Dry, regular, composed of several cells ranged round a common axis, formed by the entering valves.

A capsule with valvular partitions (of authors.)

Scarcely differs from valvular partitions. (D. C.)

20. REGMATUS—dry, sometimes very coriaceous, generally 3-celled, (rarely 2-multilocular.) Cells separating with elasticity, 1—2-seeded. Partition dividing at the middle of cells. Epicarp herbaceous, as if fleshy. Endocarp cartilaginous, or almost ligneous, very often separating one from another. (D.)

Not adhering to calyx. Oft with projecting (elevated) ridges (lirä), composed of several 2-valved coccums, disposed verticillately, (ray-like) round an axis. (D. C.)

Dieresilian, losing (in general) its pannextern at maturity, and dividing into several 2-valved coccums, which open by an elastic movement. (M.)

Elaterium.—Often lirate, naturally dividing at maturity into so many distinct coccums as there are cells, and opening longitudinally, and so 3-multicoccous.

— *Coccums*—are generally united by a central columella, which persists (remains) after their fall. (R.)

21. CARPODELIUM—generally 2-celled (never 1-celled) rarely many-celled, enveloped by the calyx. Cells distinct, 1-seeded, indehiscent, opposite!—
 Seeds often adhering to endocarp.

N. Placed with several different fruits under *Polakenium* by R.
 Mirbel only includes the *Umbeliferā* in *Cremocarp*.
 Perhaps it would be more proper to name only the *Araleaceā* Carpodeles. (D.)
 Composed of several cells, longitudinally separable at maturity, united and inclosed in a calyx. (D. C.)
 Dieresilian, adhering to calyx. Pericarp divisible into two indehiscent coccums, each containing a reversed, perisperm seed, adhering to the interior coat of *coccum*. (M.)
 Simple and formed by an adhering ovary, separating at maturity into two or more cells, each to be considered as an Akene, hence 2—3—5-akenous. (R.)
Cremocarpium.—*Coccum*—closed cells of a plurilocular pericarp, separating one from another at maturity. (M.)

22. CONCEPTACULUM—Sometimes not symmetric, 1-locular, 2-valved.
 Seeds placed on the edge of the suture.

N. A kind of capsule allied to *Siliqua*, but differing from the absence of the partition. (D.)

Folliculus—Membranous, long, opening by a longitudinal suture.

Never solitary but by abortion. (D. C.)

23. SILIQUA & SILICULA—2-valved, 2-celled.

Seeds on the edge of the sutures.

N. Siliqua. At least four times longer than broad.

Silicula. Never " " " " (D.) often only 1-2 seeded (R.)

Some genera bear the character of achena. (D.)

Seeds fixed to both sutures.

A longitudinal partition parallel to the valves in most.

Partition opposite to the valves when they are sensibly compressed, (keeled.) (D. C.)

Pericarp, regular bearing the seed on both sides of a placentary, dilated into a longitudinal partition. (M.)

Seeds fixed to two sutural trophosperms (placentas.)

Generally separated into two cells by a false partition, parallel to the valves, which is only a prolongation of the trophosperm (placenta) and which often remains after the fall of the valves. (R.)

— *Vera*. Seeds fixed to both edges of the longitudinal partition.

— *Spuria*. Seeds fixed to the edges of the valves themselves. (Mö.)

24. LEGUMEN—Not symmetric, almost always 2-valved.

Seeds fixed on one side only on the edge of the suture. (D.)

Membranous, 2 (rarely 3-4) valved.

Pistillary cord, divided into two branches running parallel on the upper suture. Seeds fixed to this suture alternately to both valves.

(*Lomentum*.) When divided into 2—several 1-seeded cells, by transverse partitions. (D. C.)

Pericarp irregular, bearing the seed on a lateral placental, fixed to one of the two sutures. (M.)

Seeds fixed to a trophosperm (placenta) which follows the direction of one of the sutures.

Naturally 1-celled, but is sometimes divided into 2—several cells, by false partitions.

Sometimes—1. cylindric and separated into many cells by a diaphragm (transverse, false partition.)

——— 2. or jointed (lomentaceous.)

——— 3. or swollen, vesicled with semi-transparent paries.

——— 4. or indehiscent. (R.)

25. **HEMIGYRUS**—not symmetric, oft ligneous, dehiscent on one side only, 1-locular (rarely 2-locular,) cells 1—2-seeded.

N. Distinct from capsule by its ligneous consistence. (D.)

3 * *Compound, dry.*

Syncarpa. *R.* Compound. From several ovaries belonging to one and the same flower, amalgamated and united together, even before fecundation.

The fruit of *Fragaria* and *Rubus* is formed by a number of true, small *drupes* (drupeoles *M.*) whose sarcocarp is thin, but yet very manifest in *Fragaria*.

United on a fleshy polyphore more or less developed.

Several small *akenes* compose the fruit of the *Ranunculacæ*. (R.)

N. Includes all the compound fruits of *R.*

26. **FOLLICULUS**—2-celled, polyspermous, distinct, but produced by a single ovary. Dehiscent at inflex of cells.

N. very distinct from plopocarp. (D.)

Membranous, 1-valved, elongated and opening by a longitudinal suture. Always 2. (D. C.)

Geminate (or solitary by abortion) generally membranous, 1-locular, 1-valved, opening by a longitudinal suture, to which is fixed interiorly a sutural trophosperm (placenta) which becomes free by the dehiscence of the pericarp.

The seeds are rarely fixed to both edges of the suture. (*Apocineæ*. *R.*)

Bifolliculus—composed of two follicles.

Pericarpian *boxes* each formed of a valve, bent in its length, and agglutinated by its edges. (M.)

27. **PLOPOCARPIUM**—composed of several separate cells and belonging to several distinct ovaries. The cells are generally polyspermous and dehiscent. (D.)

Etörio—composed of several camaras, pericarpian, 2-valved cells, organized like *legumes*. (M.)

Several camaras united round a real or ideal axis. (D.)

Camara membranous, composed of two valves, agglutinated and inclosing 1—several seeds, fixed to the interior angle.

Always multiplex, many originating from same flower. (D. C.)

28. **POLYSECUS**.—Cells all produced from a distinct ovary, 1-seeded, indehiscent and borne by a receptacle, in form of a column, distinct from the disk.

N. In *Fragaria* the receptacle is fleshy and pulpy.

It is near *Plopocarpium*, but distinct from it by the central part (particular receptacle) and non-dehiscence. (D.)

Polychorio—several *Cáriopses* or *Achenas* united on a receptacle. (D. C.)

29. **AMALTHEA**.—Composed of several dry ovaries, not symmetric, inclosed in the cavity of a coriaceous calyx, closed by its apex. (D.)

4 * *Simple, succulent.*

30. **DRUPA**.—Fleshy, 1-celled. Endocarp ligneous, easily separable from the sarcocarp at maturation.

N. *Drupeola* (M.) may be given to some small, drupaceous fruits.

Juglans, which some make distinct, is only a drupe. (D.) (Tryma. Necker.)

Simple, fleshy, containing a nut.

Pannexterna, (the epicarp.)

Putamen, (the stony endocarp.)

Drupeola, when smaller than a pea. (M.)

Fleshy, inclosing a nut, which nut is formed by the indurated and ossified endocarp, (putamen) united to a part of the sarcocarp. (R.)

31. **NUX**.—Inclosing a nut like the drupe, but the sarcocarp (nauum) rather coriaceous than fleshy.

N. Scarcely differs from drupe. (D. C.)

Differs from drupa by a thinner sarcocarp, (nauum.)

(*Juglans*, *Amygdalus*. R.)

32. **NUCULANEUM**.—Fleshy, free, inclosing several cells (putamens) formed by the endocarp which is ligneous. These cells are sometimes united with each other, but more habitually separated.

N. It is a drupe, inclosing more than one nutlet or cell. (*Pyrenä Nuculä. D.*)
Fleshy, originating from a free ovary, inclosing several nutlets, (*Nuculä. R.*)

33. **TRYMA**.—only differs from drupe by a thinner sarcocarp (*naucum.*)
Incloses a 2-valved nut. Sarcocarp coriaceous (not fleshy.)

34. **SYNCARPA**.—Formed by the union of several distinct flowers by means of a particular receptacle, whose form is so various that so many particular fruits might be made of them, graduating imperceptibly from the most simple—in which all the parts are apparent—to the most complicated in which all the parts are hid in a particular envelope, taken for a fruit.

1. Receptacle filiform, berries spiked.

2. „ swollen, „ approached. (*Syncarpa. D. C. Sorosus. M. R.*)

3. „ columnar and set with confluent berries.

4. „ spread.

5. „ cupuliform.

6. „ pyriform. (*Ficus. D. C.*) } *Syconus. (R. M.)*

N. Sorosus (*M. in Journ. Phys.*) is only a *Syncarp.*

The name *syncarp*, proposed by Richard for a fruit composed of several ovaries, produced from a single flower, appears to me more properly implied in the sense of *D. C.* which sense I adopt. (*D.*)

Several small, berry-like utricles, united on a scarcely perceptible polyphore. (*D. C.*)

35. **SOROSUS**—Several fruits united in a single body by the intervention of floral, succulent and intergrafted envelopes.

The nature of the fruit and envelopes are to be taken into consideration. (*M.*)

Union of several fruits into a single body by the intervention of floral envelopes, fleshy, much developed and intergrafted so as to represent a papillose berry. (*R.*)

Syconus—Union of covered fruits.

Carcerules or *drupaeoles*, originating from several flowers placed on a clinanth, which spreads on the interior paries of an involucre. (*M.*)

Involucre, 1-phyllous, with fleshy interior, having a flat, ovoid, or closed form and containing a number of *drupaeoles*, originating from so many female flowers. (*R.*)

Ficus—a great number of *cariopses* united in a fleshy and succulent involucre. (*D. C.*)

36. **ARCESTHIDA**—spheric, resulting from the amalgamation of several fleshy scales, in whose axillas the fruit is found.

N. It is a modification of the strobile, presenting the consistence of a berry. (D.)
Bacca (improperly) differs from *Galbalus*, the bractees being fleshy and not separating at maturity. (D. C.)

37. *HESPERIDIUM*—simple, fleshy, indehiscent, multilocular. Cells distinct. Epicarp membranous, separable. Sarcocarp spongy. Endocarp bearing pulpy cellules. Seeds with coriaceous episperm.

N. I call it so rather than orange, as D. C. for otherwise we must call a citron and a lemon orange, which would imply a contradiction. (D.)

Divided into several cells within by membranous partitions. (R.)

Aurantium—fleshy.

Envelope very thick and provided with vesicular glands, interiorly divided into several membranous cells, separable without tearing. (D. C.)

38. *SPHALEROCARPIUM*—1-seeded, indehiscent, covered wholly or in part by the calyx, which has assumed the appearance of a berry or fleshy pericarp. The true pericarp is seldom ligneous.

In *Taxus*, the capsule which represents the calyx remains open at top.

N. Allied to *Cotoclesium*, but differs from the nature of the substance of the calyx, which is fleshy, and appears to form a true berry. (D.)

39. *BACCA*—fleshy, more often pulpy, 1—many-celled, generally spheric. Cells often scarcely visible from the effect of development.

In *Jasminæ*, the berry is didymous.

N. The true berries are much less frequent than is imagined, because this term is given to many fruits which are not berries. (D.)

All fleshy fruits without nuts. (D. C.)

— *Vera*. Mö. No cells, and the seed without order.

— *Spuria*. „. With cells, and the seeds ranged in apparent order.

Acinus. Gä. Soft, juicy, transparent, 1-celled and osseous, (nutletted) seeds. (Nuculaneum? R.)

Baccaceous, very variable, containing several nutlets or distinct seeds, and differing from *Peridium* and *Pepo*. (M.)

40. *ACROSARCUM*—spheric, sometimes didymous, fleshy, amalgamated with the calyx and often crowned by it, and presenting the characters of a berry. (D.) A crowned berry. (D. C.)

N. Includes all inferior, bacciferous fruits. (D.)

41.—*PEPONIDA*—inferior, generally multilocular, presenting no parietal membrane or endocarp distinct.

Seeds fixed to the paries. (D.)

Pericarp baccaceous, pulpy within, placenta radiate from the centre. Seeds in the circumference.

Fleshy, indehiscent (or ruptile) of several cells sparsed in the pulp, each inclosing a seed, which is so agglutinated to the internal parietal membrane of each cell, as to be separated with difficulty. (R.)

Pepo—Fleshy.

Seeds disapproximated from the axis, placed near the circumference, which is much harder than the almost empty centre. (D. C.)

Baccaceous pericarp, pulpy within, divided into several cells by a rayed placentary which bears the seeds near the circumference of the fruit, often obliterating in the centre at maturity.

N. These characters only visible in the ovary-state—after floration the sterile partitions always obliterate, and also the placentarial divisions. (M.)

42. **BALAUSTA**—inferior, composed of a coriaceous (not succulent) pericarp, inclosing a great number of seeds whose episperm is drupaceous. (D.)

Adbering to and crowned by the calyx.

Peel hard, coriaceous.

Compartment irregular, inclosing nut-like, osseous seeds. (D. C.)

Plurilocular, polyspermous, always originating from a true inferior ovary, and crowned by the dents of calyx. (R.)

5 * *Compound, succulent.*

43. **SARCOBASIS**—cells generally 5, separated, bacciform, produced from distinct ovaries, and borne by a very large, fleshy disk. (D.)

Gynobase, very large, very fleshy, bearing 5 or more cells, separate at all periods of existence. (D. C.)

44. **ERYTHROSTOMUM**—composed of a conic placenta, bearing a great number of distinct bacciform ovaries, produced by a single flower and forming a fruit by their union. (D.)

Several small, berry-like utricles, united on a scarcely apparent polyphore. (D. C.)

Multiplex from several ovaries belonging to one flower, amalgamated and united together even before fecundation. (R.)

45. **BACCAULARIUS**—several distinct, bacciform ovaries, more or less separated, produced by a single flower, (never provided with a fleshy disk.)

N. Closely allied to *Sarcobase* and only different from the absence of the fleshy disk. (D.)

46. ASIMINA—ovaries numerous, bacciform, 1-locular, produced from a single flower, united in the form of a spheric fruit.

N. Mirbel puts *Rubus* (and *Carosolle*) in *Etörio*, which I consider very unnatural. (D.)

47. MELONIDIUM.—Formed by the fleshy calyx, umbilicated and perforated at apex for the passage of the style, and with which the ovaries are embodied by their periphery. Epicarp and sarcocarp, confounded with the substance of the calyx. Endocarp parenchymatous.

N. In *Cydonia* the whole of the pericarp may be separated or isolated by opening the calyx and breaking its adherences. (D.)

Pomum.—Fleshy, crowned by lobes of calyx with which the ovary was embodied, inclosing several cells, each clothed with a proper tunic. (D. C.)

Pyridium.—Baccaceous, containing several seeds in cells, verticillate round the central axis. (M.)

Melonida.—Fleshy, from several parietal ovaries, united and amalgamated with the tube of calyx, which is often thick and fleshy, and confounded with them. The fleshy part is not formed by the pericarp itself, but by a considerable thickening of the calyx.

The endocarp is either cartilaginous or osseous; in this latter case, there are as many nutlets as ovaries. (*Mespilus*. R.)

1. Cells formed of membranous, cartilaginous valves.

2. Cells ligneous. (D. C.)

48. PYRENARIUS.—Pulpy, semi-inferior, multilocular. Cells with ligneous endocarp.

N. *Mespilus* has many nutlets.

Eläagnus, which has only one, is closely allied to it, but it is always covered by the calyx and embodied with it. (D.)

49. CYNARHODON.—Fleshy, composed of a great number of ovaries, with solid pericarps, inclosed in a fleshy, almost closed calyx, but only embodied with its interior paries.

N. *Calycanthus* is clearly distinct. (D.)

Several horny utricles united in the calyx, which becomes fleshy after floration. D. C.

EXAMPLES

OF

LIGNEOUS EUROPEAN AND NORTH AMERICAN GENERA,

(And some few of other Countries)

ACCORDING TO

THE CARPOLOGIC CONCORDANCE, REFERRED TO GÄRTNER,

Where Figures of the Fruits and Seeds and Dissections of their minute parts may be seen.

1* Carcerular, simple, indehiscent, dry.

1. STEPHÄNAUM.

<i>Synanthera.</i>		
<i>Syngenesia.</i>		
<i>Compositæ.</i>		
<i>Dipsacæ.</i>		
<i>Valerianæ.</i>		
<i>Lagoëcia cucuminoides.</i>		
<i>Trapa natans</i> vol. I. p. 127 tab. 26		
<i>Prenanthes</i> II. 358 158		
<i>Stäbelina</i>		
<i>Santolina</i> 391 165		
<i>Artemesia</i> 410 167		
<i>Gnaphalium</i> 391 165		
<i>Baccharis</i> 405 166		
<i>Conyza</i> <i>ibid.</i> <i>ibid.</i>		
<i>Cloeraria</i> 446 170		
<i>Achillea</i> 426 168		
<i>Centaurea</i> { 376 163		
	{ 382 161	
	{ 385 162	
<i>Othonna</i> 452 170		
<i>Iva</i> 394 164		
<i>Valeriana</i> 35 86		
<i>Scabiosa</i> 38 86		

2. CARIOPSIS.

<i>Sparganium</i> I. 75 19	
<i>Gramineæ (some.)</i>	

3. ACHENA.

<i>Gramineæ (others.)</i>		
<i>Cyperaceæ. (all.)</i>		
<i>Fumaria</i> II. 162 115		
<i>Crucifera (some)</i>		
<i>Arunda</i>		

4. CATOCLESIMUM.

<i>Chenopodeæ (some.)</i>		
<i>Urticæ (some.)</i>		
<i>Camphorosma</i> vol. III. p. 175 tab. 213		
<i>Salsola</i> I. 359 75		
<i>Anabasis</i>		
<i>Chenopodium</i> I. 360 75		
<i>Atriplex</i> 361 75		
<i>Salicornia</i> II. 210 127		
<i>Urtica</i> 183 119		

(Semina nuda. G.)

<i>Globularia</i> I. 211 44	
<i>Platanus</i> II. 57 90	

5. DYCLESIMUM.

<i>Mirabilis</i> 207 127	
---------------------------------	--

6. XYLODIUM.

<i>Cassivium (Acajuba)</i> I. 192 40	
<i>Anacardium</i> <i>ibid.</i> <i>ibid.</i>	

{ 7. CONUS (Strobilus.)

{ 8. GALBALUS.

Calydio (Nur. G.)

<i>Cupressus</i> II. 64 91	
<i>Thuja Orientalis</i> 61 91	
<i>Ephedra</i>	
<i>Alnus</i> 54 90	

9. NUCULA, (Nur. G.)

<i>Corylus</i> II. 52 89	
---------------------------------	--

10. GLANS.

(Nuz. G.) * *Coronate*.

Fagus.....	vol. I. p. 182	tab. 37
Castanea.....		
Carpinus.....	II. 52	89
Ostrya.....		
Quercus.....	I. 182	37

(Nuz. G.) ** *Incoronate*.

Stellera.....	186	39
Hamamelis.....		
Passerina.....	III. 197	215
Comptonia.....	II. 58	90
Planera.....		
Aucuba.....		

11. PTERIDIUM.

1-Celled.

Ulmus.....	I. 224	49
Betula.....	II. 53	90

2-Celled.

Fontanesia.....	III. 193	215
Acer.....	II. 166	116
Fraxinus.....	I. 222	49
Ptelca.....	223	49

3-Celled.

Mylocarium.....		
Paliurus.....	203	43

Various.

Calligonum.....	III. 200	215
Halesia.....		
Liriodendron.....	II. 475	178
Ailanthus.....		
Pinus.....	59	91
Thuja.....	61	91

12. AMPHISARCA.

Amphalocarpium.....		
Adansonia.....	253	135
Crescentia.....		

13. CARCERULUS. (not in extent with M.)

Tilia.....	150	113
------------	-----	-----

(And many genera in *Sepindei J.*

Cenobian, dry.

14. MICROBASIS.

<i>Labiata</i>		
<i>Borraginea (some)</i>		
Ziziphora.....	I. 316	66
Rosmarinus.....	316	66
Salvia.....	316	66

Teucrium.....		
Satureja.....		
Hissopus.....		
Lavandula.....	vol. I. p. 320	tab. 66
Sideritis.....		
Stachys.....		
Marrubium.....		
Phlomis.....	319	66
Origanum.....		
Thymus.....		
Calamintha.....		
Prasium.....	321	66
Heliotropium.....	329	68
Echium.....	326	67
Lithospermum.....	327	67

2* *Capsular, simple, dehiscent dry.*

15. UTRICULUS.

<i>Polygonæ (some)</i>		
<i>Amaranthaceæ (some)</i>		
Atraphaxis.....	II. 181	119
Polygonum.....	181	119
Iresine.....		
Herniaria.....		

16. PYXIDIUM.

Plantago.....	I. 236	51
Anagallis.....	230	50
Certunculus.....	228	50
Gomphrena.....	II. 216	128
Lechytis.....		
Hyoscyamus.....	I. 369	75
Portulaca.....	II. 212	128
Celoria.....	215	128

17. CAPSULA.

1-Celled.

Viola.....		139	112
Illecebrum (Paronychia).....	III. 36	184	
Tamarix.....	I. 291	61	
Statice.....	210	44	
Gypsophila.....			
Dianthus.....	II. 227	129	
Brunnichia.....	I. 213	45	
Hudsonia.....	III. 152	210	
Tigarea.....			
Ascyrum.....	I. 297	62	
Salix.....	II. 55	90	
Populus.....		56	90
Diotis. (Axyris).....	II. 210	128	
Clusia.....			
Helianthemum.....	I. 371	76	
Liquidambar.....	II. 57	90	

2-Celled.

Syringa.....	I. 224	49
Buddleja.....	226	49

Verbascum.....	vol. I.	p. 262	tab. 55	Sapindus.....			
Veronica.....		257	54	Wendlandia			
Schrophularia		249	53	Mylocarium.....			
Antirrhinum.....		248	53				
Pentstemon.....							
Fothergilla.....							
18. DIPLOSTEGIA.							
Irideæ & Orchideæ..							
2-Celled.							
Azalea.....		301	63	Pinckneya.....	vol. III.	p. 80	tab. 194
Clethra.....		301	63	Hydrangea.....	I.	150	30
Cyrilla.....	III.	147	209	Hortensia			
3-Celled.							
Silene.....	II.	233	130	Campanula....		153	31
Phlox.....	I.	299	62	Agave.....			
Celastrus.....	II.	85	95	4-5-Celled.			
Croton.....		118	107	Philadelphus...	I.	173	35
Aloe.....	I.	67	17	5-Celled.			
Xylophylla	II.	123	108	Ænothera.....			
Æsculus (Hippo- castanum).....		135	111	6-Celled.			
Kölreuteria.....				Aristolochia.....		45	14
Thea.....	II.	83	96	10-Celled.			
Decumaria...							
3-(5-many-Celled.)							
Convolvulus.....		247	134	19. STERIGIUM.			
Hypericum.....	I.	300	62	Malvaceæ			
Corchorus	II.	307	64	Geraniaceæ			
		482	179	Hibiscus.....	II.	250	134
4-Celled.							
Diervilla.....				Gordonia.....			
Menziesia.....	III.	145	209	Lavatera..		256	136
Erica.....	I.	302	63	Malva.....		254	136
Cephalanthus.....	II.	41	86	20. REGMATUS.			
4-5-Celled.							
Ruta.....		138	111	Euphorbiaceæ.....			
Evonymus.....		149	113	Euphorbia (Tithymalus)		115	107
5-Celled.							
Kalmia.....	I.	305	63	Buxus.....		125	108
Ledum.....	II.	145	112	Stillingia			
Amyrsine				Borya (Adelia).....			
Rhodora.....	III.	144	209	Ceanothus.....		110	106
Epigæa.....				21. CARPODELIIUM.			
Rhododendron.....	I.	304	63	Umbeliferæ			
Andromeda.....	II.	304	63	Araliaceæ.....			
		481	178	Rubiaceæ (European.)			
Gaultheria.....	I.	306	63	Bupleurum.....	I.	97	22
Pyrola.....		303	63	Seseli.....			
Reaumuria.....				Eryngium.....		77	20
Cistus.....		370	76	Asperula.....	III.	89	195
6-many-Celled.							
Linum.....	II.	146	112	Rubia.....		85	195
Befaria.....	III.	146	209	Crucianella.....	I.	111	24
Capsules—several.							
Staphylea.....	I.	334	69	Mercurialis.....	II.	114	107
				22. CONCEPTACULUM.			
				Corydalis..			
				Cleome.....	I.	368	76
				Hypocœum.....	II.	164	115
				Chelidonium.....		164	115
				Glaucium.....		165	115
				Itea.....	III.	142	200

{ Bignonia vol. I. p. 240 tab. 52
{ Catalpa

23. SILIQUA.

Biscutella.....	II.	278	141
Vella.....		285	141
Iberis		279	141
Lepidium		281	141
Alyssum.....		282	141
Cheiranthus ...		296	143
Mathiola			

24. LEGUMEN.

a. Non Diadelphous. (10—1.)

{ Sophora.....	II.	320	149
{ Edwardsia.....			
Anagyris.....			
Cercis		303	144
Cassia.....		313	147
Virgilia.....			

1. * Dioecia.

Gymnocladus.....

2. * Polygamia.

Acacia.....		317	148
Mimosa.....		334	155
Gleditschia.....		311	146
Ceratonia.....		310	146

b. Diadelphous.

Polygala	I.	294	62
Amorpha.....	II.	305	144
Genista.....		329	151
Spartium.....		338	153
Lupinus.....		324	150
Anthyllis		307	145
{ Ulex.....		330	141
{ Stauarcanthus...			
Ononis.....		343	154
Colutea.....		342	154
Astragalus.....		339	154
Psoralea.....		308	145
Hedysarum.....		346	155
Coronilla.....		344	155
Hippocrepis.....			
Medicago.....		348	155
{ Glycine		343	154
{ Apios.....			
Robinia		307	145
Caragana.....			
Indigofera.....		317	148
Lespedeza			
Cytisus.....			
{ Lotus		336	153
{ Dorycneum.....			

25. HEMIGYRUS.

Proteacea.....

3. * Compound, drg.

26. FOLLICULUS.—(non D. C.)

Apocineæ.....			
Asclepiadæ.....			
Vinea.....	vol. II. p. 172	tab. 117	
Nerium...		172	117
Echites			
Periploca.....			
Gonolobium....			
Gelsemium.....			

27. PLOPOCARPIUM.

Ranunculaceæ. § 2.			
Rosaceæ. § Ulmaria			
(Spiræa. J.)			
Atismaceæ. (Alismo-			
ideæ. Vent.)			
Crassulaceæ. (Sem-			
pervivæ. J.)			
Spiræa.....	I.	337	69
Sedum.....		313	65
Cotyledon.....			
Sempervivum....		314	65
Illicium.....		338	69
Xylopia.....			

28. POLYSECUS.

Ranunculaceæ. § 1...			
Rosaceæ. § Dryadeæ.			
(Potentilla. J.)			
Atragene.....	I.	356	74
Clematis.....		353	74
Pæonia.....		309	65
Zanthoriza.....			
Dryas.....		352	74
Potentilla....			
Calycanthus.....			
Magnolia.....		343	70
Liriodendron.....	II.	475	178
Michelia	III.	70	198

29. AMALTHEA.

Rosaceæ. § (Agrimoniae,
Sanguisorbæ. J.)

4 * Succulent, simple.

30. DRUPA.

* Incoronate.

1-Celled.

Olea	II.	75	93
Hamiltonia.....			
Bumelia.....	III.	126	202
Elaeocarpus	I.	202	43
{ Thymelea.....		188	39
{ Daphne.....			

Prunus.....	vol. II. p. 74	tab. 93	34. FICUS. (D. C.)		
Laurus.....	68	92	Ficus.....	{ vol. II. p. 66	tab. 91
Celtis.....	I. 374	77		484	179
Nitraria.....	279	58	35. SYNCARPA. (D. C.)		
Chrysobalanus.....			Morus.....	199	126
Myrica.....	190	39	Broussonetia.....		
Styrax.....	284	59	Maclura?.....		
Rhus.....	205	44	36. ARCESTHIDA.		
Menispermum.....	219	46	Juniperus.....	62	91
Pistacia.....			37. HESPERIDIUM.		
Salisburia.....			Citrus.....	189	121
{ Rhapia.....			38. SPHALEROCARPUM.		
{ Sabal.....			Basella.....	200	126
Phoenix.....			Blitum.....	200	126
2-Celled.			Taxus.....	65	91
Phillyrea.....	II. 71	92	39. BACCA.		
Zizyphus.....	I. 202	43	1-Celled.		
Chionanthus.....	189	39	Jasminum.....	I. 196	42
Palurus.....	203	43	Ilex (Aquifolium)...	II. 72	92
3-Celled.			Cestrum.....	I. 378	77
{ Chamælia .. .	342	70	Androsænum(Hype-	282	50
{ Cneorum.....			ricum.)		
Elaeodendrum.....	I. 274	57	Toxicodendrum(Rhus.)	207	44
4-Celled.			Berberis.....	200	42
Vitex.....	269	56	Dicca.....		
** Coronate.			Capparis.....		
1-Celled.			Sideroxylum.....	III. 123	202
Nyssa.....	III. 201	216	Empetrum.....	II. 107	106
Elaeagnus.....	203	216	Chamærops (Chamæ-		
Ostrya.....	204	216	ripes.).....	I. 25	9
2-Celled.			Hippophae.....	199	42
Cornus.....	I. 126	26	{ Passiflora.....	I. 289	60
3-Celled.			{ Granadilla.....	II. 479	177
Hopca.....	III. 140	209	Zamia.....	I. 15	3
4-Celled.			Callicarpa.....	II. 80	94
Halesia.....	I. 160	32	Ceratiola.....		
31. NUX.			Coriaria.....		
Amygdalus.....	II. 74	93	2-Celled.		
32. NUCULANEUM.			Ligustrum.....	72	92
Melia.....	474	180	Atropa.....	240	131
Bontia.....	III. 168	212	Physalis.....		
Spondias.....	II. 101	103	Solanum.....	239	131
Rhamnus.....	111	106	Lycium.....	242	132
33. TRYMA.			2-3-Celled.		
Juglans.....	50	89	Rhamnus.....	111	106
			3-Celled.		
			{ Schinus.....	276	140
			{ Amyris.....		
			Asparagus.....	I. 58	16
			Smilax.....	59	16
			Ruscus.....	60	16
			Lianaa.....		

<i>4-Cellcd.</i>				<i>3-Cellcd.</i>			
Hlex.....				Tamus.....			
Fuchia.....				Aristotelia.....	vol.III. p. 160	tab. 211	
<i>5-Cellcd.</i>				<i>4—5-Cellcd.</i>			
Hedera.....	vol. I. p. 130	tab. 26		Vaccinium.....	I. 142		28
Arbutus.....	284	59		Cissus.....			
Aralia.....				<i>41. PEPONIDA.</i>			
Vitia.....	II. 108	106		<i>Cucurbitaceæ.....</i>			
Stuartia.....				<i>Nymphaeaceæ.....</i>			
<i>6-Cellcd.</i>				<i>42. BALAUSTA.</i>			
Prinos.....				Punica.....	I. 183		38
Yucca.....	34	85		<i>5. * Compound, Succulent.</i>			
<i>8-many-Cellcd.</i>				<i>43. SARCOBASIS.</i>			
Diospyros.....	{	478	179	<i>Ochoaceæ.....</i>			
	III. 136	208		<i>Simaroubæ.....</i>			
<i>Various.</i>				<i>Castela.....</i>			
Poterium.....				<i>44. ERYTHROSTOMUM.</i>			
<i>40. ACROSARCUM.</i>				Rubus.....	I. 350		73
<i>1-Cellcd.</i>				<i>45. BACCAULARIUS.</i>			
Capparis.....				Drymis.....			
{ Grossularia.....	I. 143	28		Zanthoxylum.....	333		68
{ Ribes.....				Menispermum....	219		46
Viburnum.....	133	27					70
Sambucus.....	137	27		<i>46. ASIMINA.</i>			
{ Cactus.....	II. 265	138		{ Anona.....	II. 193		138
{ Opuntia.....				{ Porcelia.....			
Schisandra.....				<i>47. MELONIDIUM.</i>			
Osyris.....	III. 204	216		Pyrus.....	44		87
Viscum.....	I. 131	27		<i>48. PYRENARIUS.</i>			
Lonicera.....	132	27		Mespilus.....	43		87
<i>1—3-Cellcd.</i>				<i>49. CYNARHODON.</i>			
{ Caprifolium.....	135	27		Rosa.....	I. 347		73
{ Lonicera.....							
<i>2-Cellcd.</i>							
Chiococca.....	125	26					
<i>2—3-Cellcd.</i>							
Myrtus.....	184	38					

Note.—Page 60. Lechytis ? } per D.
 Porlulaca ? }

No. 14. Microbasis. }
 21. Carpodelium. } are placed with the compound by D.
 34.&35. Syncarpa }

The natural orders and some few not ligneous genera, are added by way of farther illustration.

R E V I E W
OF THE ABOVE
NOMENCLATURAL CONSPECTUS,
GENERIC TABLE
AND LIST OF EXAMPLES.

THE fruit is always the development of a single ovary, or of aggregates of ovaries, resulting, in both cases, from a single flower.

ARRANGEMENT.

I have adhered pretty strictly to Desvaux, as, in my opinion, the most elaborate, clear and complete. The displacement of his numbers will shew where I have differed from him as to arrangement.

De Candolle sometimes includes several of Desvaux' Genera in a single one of his own, which seems rather to obscure than elucidate the subject.

Richard generalises too much by his reluctance to the creation of new genera.

Simple, dry, carcerulous (imprisoned.)

The leading character of these is, that the fruit has neither valves nor sutures, and, of course, does not open spontaneously at maturity.

The pericarp is so closely pressed on the spermoderm as to appear but one and the same envelope to the nucleus (kernel), though every fruit is presumed to have these two envelopes distinct.

On dissection no funicle is discoverable in many such fruits, and they have been called naked seeds (without pericarp,) as according with an artificial rather than a natural principle.

The class might be divided into two distinct sections $\left\{ \begin{array}{l} 1. \text{ Funicled.} \\ 2. \text{ not } \text{,,} \end{array} \right. \}$

Stephanäum, *cariopsis* and *achena* have been more clearly separated by D. than by other carpologists, but the latter genus does not seem that of De Candolle and others of the same name. The examples under *Pterodium* probably may not all possess, though most have, the carcerulous character, and the prolonged membranes (wings) must predominate in characterising their association. They perhaps might as well have been placed immediately close to the dehiscent.

Simple, dehiscent (capsular) dry.

The leading character of these fruits is dehiscence.

De Candolle has included his *utriculus* with the indehiscent, and confounded in it *Sacellus*, *Thecidium*, and *Carcerula*, M. (a residuary genus) and *Achena*, *Catoclesium* and *Sphalerocarpium*, (D.) *Carpadelium*, D. is by him placed with the compounds.

Compound, dry.

De Candolle has constructed his genus *Camara*, which merges into *Plopocarpium* (D.) from the *Carpel*, M. of that name, and placed it after *Folliculus*, with the simple fruits from its legumoid structure, and probably considering the aggregation as only conglutinated cells (*camares*) of one fruit; but these carpels, resulting from distinct ovaries, all included in one and the same flower, necessitate its location with the compounds.

I have brought these legumoid capsules close to the compound of similar structure, which I consider more natural.

Succulent.

By separating this rich class from the dry, it may be placed at the head of the carpologic table, or at the end, according to the view of the collector. The specimens must generally be kept in jars of spirits and so are conveniently separated.

A principal character is indehiscence, which has led some to place them after the carcerulous.

I have adopted *Tryma* from Necker for *Juglans*, as a clearly distinct genus, from its 2-valved putamen.

Melonidium, *Pyrenarius* and *Cynarhodon*, (all *Melonidia*, R.) I have placed with the compounds, as Richard wished to have done, though the location of the genus *Pyrus* here, is not quite so satisfactory.

General Observations.

I should not be disinclined to locate the whole of the compound fruits, according to the structure of their carpels with the simple ones, (though many result from one and the same flower) and consider the generic terms applied to aggregate masses, as not belonging to the fruit itself but extrinsic from carpology.

Aggregates.—This class I merge in with the simple fruits; for though some of the floral teguments may increase with the ovaries (as nurses) I do not consider this circumstance sufficient of itself to warrant either distinct classification or sectional or even generic denominations. Constructing genera of fruits from the aggregation of their amphanths, however intimately connected, cannot be considered as correct; especially as these amphanths do not perform the essential functions of pericarps, by exteriorly bearing the style and stigma and interiorly the placenta. Such amphanths ought to be considered as extraneous parts and not parts of the fruit itself. The aggregates, strobile, (cone, galbalus) syncarpa, arcesthida, &c. originating from the disposition of involucre, bracteas or scales, (amphanths) are rather to be considered as modes of inflorescence only, and the more particularly as each fruit results from its own peculiar single flower, and not in aggregates from one flower only; and these terms designating aggregates ought to be changed for such as respect some character of the *Carpidium*.

Improper Generic Terms.

The last genus in each of Mirbel's classes is a residuary, which is going so far only, but not analysing the residuum.

Samara, Grä. is not a good term, as there is a genus of plants of the same name.

Ficus, D. C. is in the like predicament.

Camara, D. C. is a bad genus, being the same as the diminutive (carpel) of M.

Nux, D. C. (drupa) is too general a term.

Bacca, D. C. (arcesthida) is repeated under two genera.

Syncarpa, D. (syconus and sorosus) is adopted from R. who includes all the compound fruits in it, and not the aggregates, which are by him otherwise and separately specified.

Carpology is a difficult and curious part of botany, and essential in the construction of genera. It has been but little attended to in Britain, and I, as yet, know of no very extensive collections of fruits and seeds.

Mr. Henry Shepherd, of the Liverpool Botanic Garden, has taken considerable pains and made a very pretty collection of them from harvesting the product of that beautiful establishment.

Indeed the materials are of difficult attainment, and the study requires the aid of extensive home and foreign collections. Very few plants in those most extensive departments, the stove and green-house, bear fruit in Britain, which I know by inspecting from time to time very extensive collections. A list of such as actually bear fruit with us, is a desideratum; many plants, particularly in the stove department, even never flower.

The Carpologic Tables, as far as respects the English reader, are new and worthy of his particular attention.

MISCELLANEOUS OBSERVATIONS.

Double Name.

The double name, that most simple, but happy invention of Linneus, by which objects of natural history are specified, without the verbiage and tautology of the older writers.

Chemistry and Pharmacy, under the able Lavoisier and others, took advantage of this invention, and adopted it in their nomenclatures.

No doubt its simplicity will ultimately extend it to all other branches of medical science, but more particularly to the vegetable department, and that prescriptions and the labels of the officinal drawers will be expressed in the trivial names of Linneus, instead of the often cumbrous, and now, in other respects, obsolete language of the Bauhines.

Importance of Dendrology.

The number of books published on Forestry, in Germany in particular, is truly astonishing; they indicate, however, the degree of importance attached to the raising of Forest Trees in that country. In some parts of northern Europe there yet remain natural forests extending hundreds of miles. In these cold regions, where coal is not indigenous, and of course but little used, miserable indeed would be the prospects of posterity if they had not extensive and native resources of wood.

Yet these precious gifts of nature are often wantonly destroyed by lavish waste or the cupidity of the proprietors in their vast exportations of timber, so that many of the mighty forests of Russia, Sweden, Germany, &c. are fast sweeping away.

The immense calls of our extensive naval architecture, in particular, prompt the vigilant cares and ardent efforts of our land-proprietors, to plant the wastes of Britain with useful timber-trees, to meet our future exigencies.

Coal.

Even coal, that precious article, must one day be exhausted; for its use is annihilation! The pits are not growing up again, as some imagine; and nothing less than a dreadful catastrophe of Nature can produce a similar substance.

lxix

The wanton consumption of this valuable material is at once impolitic, and, to the well-wishers of posterity, alarming.

Its frequent unnecessary use in putting various machinery into motion, and more recently, in its extended application in propelling vessels by steam (though wonderfully grand, and, to our age, creditable inventions), which before was done by the free agents wind and water, and which might yet, in most cases, answer the like purposes. The great quantity used in making coal gas, &c. &c. and, above all, the very needless and vast exportations to foreign countries. Some years ago it was stated in the House, that in about 400 years, at the then rate of its consumption, the whole of the coal of Britain would be exhausted; and had this statement been made at the present time, under its accumulated destructive use, the calculation would, no doubt, have been limited to a shorter period!

TERMS.

Our conceptions of forms and figures must be established, compared, regulated, and limited by typic impressions on the mind; for, although the forms and figures of vegetables are so extremely multifarious, and in many cases irregular and inconstant, yet there is always a leading aspect determining an approximation to some evident type. The rich language of botany has borrowed much from geometry, anatomy, and other sciences, to assist its elucidation, as these sciences had long been ardently studied and clothed with expressive nomenclatures.

So that we must now have pretty correct notions of solid forms and superficial figures to assist our conclusions, otherwise our expressions will be vague and nugatory.

The terms axis, diameter, ray, segment, arch, sector (section)—the form of triangles, plane and spheric—the quantities of their angles, right, obtuse and acute—the bases and apices of bodies, ovate, acute, obtuse, cordate, &c.—their denance, whether linear, apicular, angular, round, &c. and all these affections again mixed with each other, must occupy a portion of the mind, or our statements are confused and chaotic.

Tomation (Decoupure, French) of the margin and disk of superficial bodies, is an important part of botanic definition.

A. MARGINAL.

* *Constituted by curved Lines.*

Sinus and angle obtuse—in and excurved.
in and excrenate.
repand.

DIAGRAMS.

I purposed illustrating the carpologic tables by diagrams of the leading parts cut in wood, but I found they would have cost a considerable sum and have extended my work some numbers farther, which probably would not have met with approbation. To those who possess the indispensable work of Gärtner, their omission will not be material.

The synonymes of various authors, about which great uncertainty prevails, I have placed in the index at the end of the second volume, to give the descriptions a clear and simple appearance.

P. W. WATSON.

Cottingham, near Hull, 1st January, 1825.



Pl. 1.



Publ. by Zanted & Arch. Jan. 1823.

W. & A. G. S.

1.

CHIONANTHUS VIRGINICA. (W.) v. ANGUSTIFOLIA (H. K.)

Fringe Tree.

<i>Panicle</i>	<i>terminal, 3-fid, lax.</i>
<i>Peduncle</i>	<i>3-flowered.</i>
<i>Leaves</i>	<i>acute. (W.)</i>
<i>Shrub</i>	<i>4-5 F.</i>
<i>Branches</i>	<i>brown, glab.</i>
<i>Petiole</i>	<i>short, purple, solitarily white haired.</i>
<i>Leaves</i>	<i>opposite, elliptic-lanceolate.</i>
— <i>Margin</i>	<i>intire, involute.</i>
— <i>Base</i>	<i>attenuated.</i>
— <i>Apex</i>	<i>acute.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>(parenchyma) glab.</i>
— <i>Nerves</i>	<i>prominent, subpubescent.</i>
<i>Inflorescence</i> . .	<i>a long, loose panicle.</i>
<i>Peduncles & } Pedicels</i>	<i>green, glab.</i>
<i>Calyx</i>	<i>glab. 4-parted.</i>
— <i>Segments</i>	<i>long, subserrate, acuminate.</i>
<i>Corol</i>	<i>1-petaled, 4-10-parted.</i>
— <i>Tube</i>	<i>= calyx.</i>
— <i>Segments</i>	<i>long, linear, intire, acute, white, grooved at base.</i>
<i>Stamens</i>	<i>2, sessile on base of corol.</i>
— <i>Filaments</i>	<i>0.</i>
— <i>Anthers</i>	<i>simple, oblong, each face deeply grooved.</i>
— <i>Margin</i>	<i>finely grooved.</i>
<i>Pistil</i>	
— <i>Ovary</i>	<i>ovate, conic, free.</i>
— <i>Style</i>	<i>0.</i>
— <i>Stigma</i>	<i>3-fid.</i>
<i>Floration</i>	<i>13th June, 1821.</i>
<i>Place</i>	<i>Messrs. Colvill and Son's, King's Road, Chelsea.</i>
<i>Country</i>	<i>Pennsylvania, Carolina.</i>



FONTANESIA PHILLYRAEOIDES. (W.)

Phillyrea-leaved Fontanesia.

<i>Leaves</i>	<i>elliptic-lanceolate, acute.</i>
<i>Flowers</i>	<i>racemose.</i> (Dh. nov.)
Shrub	bushy, 7-8 F.
Branches	pale drab-color, glab.
Petiole	short, glab.
Leaves	opposite, elliptic.
— Margin	with a few extremely fine, distant, serratures, tip with minute prickles.
— Base	rather tapering and decurrent on the petiole to its insertion.
— Apex	acute, mucronate.
Inflorescence.	
— Spikes	axillary and terminal.
Peduncle	herbaceous, glab.
— Pedicel	" , " , = flower.
Bracteas	glab. long, narrow, pointed.
Calyx	4-parted, glab.
— Segments	long, narrow, intire, pointed.
Corol	4-petaled.
— Petals	oblong, intire, glab.
— Ends	obtuse.
Stamens	4, longer than corol, inserted between the petals.
— Filaments	glab. = anthers.
— Anthers	basifixt.
— Lobes	united, oblong, cordate, ridged each side.
Pistil.	
— Ovary	oval, flat, free.
— Style	= ovary, flat.
— Stigma	scarcely apparent.
Samara	2 celled.
— Cells	1 seeded.
Floration	12th June, 1821.
Place	Arboretum, Kew.
Country	Syria.
Dissections	f. 1. Samara. —2. the same cut transversely.

1

2

3

4

5

6

7

8

9

10

11

12



3.

ILEX OPACA. (W.)

Carolina Holly.

<i>Leaves</i>	<i>ovate, acute, spinous, glab. flat.</i>
<i>Flowers</i>	<i>Sparsed at the bases of the last year's branches. (W.)</i>
<i>Tree</i>	18-20 F. forming an oval head.
<i>Stem</i>	5 F.
— <i>Diameter</i> . . .	8 inches.
— <i>Bark</i>	intire, warty.
— <i>Branches</i> . . .	(lower) hanging.
— "	(upper) ascending.
<i>Petiole</i>	short, glab.
<i>Leaves</i>	flat, alternate, elliptic.
— <i>Margin</i>	subrepand-dentate.
— <i>Dents</i>	4 each side, short, obtuse-angular.
— <i>Sinus</i>	shallow.
— <i>Sides</i>	both incurved (making the sinus).
— <i>Vertices</i> . . .	spinous, $\frac{1}{16}$ inch long.
— <i>Base</i>	narrowed.
— <i>Apex</i>	acuminate, spinous.
— <i>Surface</i>	shining, glab.
— <i>Subface</i>	not shining, glab. paler.
— <i>Axis</i>	prominent, glab.
— <i>Branches</i> . . .	immersed.
<i>Flowers</i>	sparsed on the branches and shoots.
<i>Peduncle</i>	1-3-flowered, hairy.
— <i>Pedicel</i>	hairy.
<i>Bracteas</i>	small, deltoid, at base of each pedicel.
<i>Calyx</i>	short, covered with small, elevated particles.
— <i>Segments</i>	acute.
— <i>Sinus</i>	very obtuse.
<i>Corol</i>	glab. cruciform, 4-petaled.
— <i>Petals</i>	
— <i>Sides</i>	parallel.
— <i>Apex</i>	obtuse or subemarginate.
<i>Stamens</i>	4, $\frac{3}{4}$ length of petals and inserted in their interstices.
— <i>Filaments</i> . . .	flat, glab.
— <i>Anthers</i>	flat, 3-angular-hastate, agglutinated on the filaments.
<i>Pistil</i>	
— <i>Ovary</i>	globular, glab.
— <i>Style</i>	0.
— <i>Stigma</i>	lobe-puckered, large, covering crown of ovary.
<i>Floration</i>	4th July, 1821.
<i>Place</i>	Arboretum, Kew.
<i>Country</i>	Canada to Carolina, New Jersey.



ILEX ANGUSTIFOLIA. (W. E.)

Myrtle-leaved Holly.

Leaves	alternate, distant, evergreen, linear-lanceolate, shining.
— Apex	serrate.
— Axis	(subface) glab. (W. E.)
Shrub	2—3 F. upright.
Branches	stiff, straight, shortly downy above.
Petiole	short, pubescent, grooved above.
Leaves	alternate, coriaceous, linear-lanceolate, $2\frac{1}{2}$ to $4\frac{1}{2}$ inch.
— Margin	intire or only 1—2 spine-like serratures each side, near the apex.
— Base	acute.
— Apex	„ mucronate.
— Surface	glab. shining.
— Subface	„ paler and dull.
— Axis	prominent with solitary hairs.
— Branches	obsolete.
Corymbs	3—7-flowered, peduncled, axillary and along the branchlets.
Bracteas	minute, red, scale-like, at base of pedicels.
Calyx	4-dentate.
— Dents	acute-angular.
— Sinus	„
— Margin	intire, transparent.
Corol	1-petaled, 4-parted, rotate.
— Segments	obtuse, intire, patent.
— Claws	adhering by a small portion.
Stamens	4, shorter than corol, inserted at the interstices of its segments.
— Filaments	glab.
— Anthers	„ suborbicular, basifixt.
— Lobes	adnate, oblong, grooved.
Pistil	short.
— Ovary	broad, conic, free.
— Style	0.
— Stigmas	scarcely apparent (3.)
Floration	28th June, 1822.
Place	T. Canham's, Esq. Twickenham.
Country	Carolina.
Dissection	f. 1. calyx with ovary and styles. —2. corol and stamens as seen from above.



AZALEA GLAUCA.

Glaucous Azalea.

<i>Branchlets</i> . . .	<i>hispid.</i>
<i>Leaves</i>	<i>oblanccolate, acute.</i>
— <i>Margin</i> . . .	<i>ciliate.</i>
— <i>Faces</i> . . .	<i>glab.</i>
— <i>Subface</i> . . .	<i>glaucous.</i>
— <i>Axis</i>	<i>setigerous.</i>
<i>Corol</i>	<i>very viscous.</i>
— <i>Tube</i>	<i>twice as long as segments.</i>
<i>Calyx</i>	<i>very short.</i>
<i>Filaments</i> . . .	<i>= segments of corol. (Ph.)</i>
<i>Shrub</i>	<i>upright, rigid.</i>
<i>Stem</i>	<i>dark brown.</i>
<i>Petiole</i>	<i>0 or only decurrence of leaf.</i>
<i>Leaves</i>	<i>in bundles on the shoots, obovate, cuneate.</i>
— <i>Margin</i> . . .	<i>subserrulate.</i>
— <i>Serrulatures</i>	<i>small, acute.</i>
— <i>Sinus</i> . . .	<i>sub 0.</i>
— <i>Sides</i> . . .	<i>excurved.</i>
— <i>Vertices</i> . .	<i>long, setaceous.</i>
— <i>Base</i>	<i>tapered.</i>
— <i>Apex</i>	<i>obtuse, mucronate.</i>
— <i>Surface</i> . . .	<i>glab., reticulate.</i>
— <i>Subface</i> . . .	<i>" , " , glaucous !</i>
— <i>Axis</i>	<i>setigerous.</i>
— <i>Branches</i> . .	<i>vanishing.</i>
<i>Inflorescence</i> . .	<i>in terminal and lateral umbels.</i>
<i>Pedicels</i>	<i>¼ inch, glandular-pubescent.</i>
<i>Bracteas</i>	<i>at base of pedicels, subrhomboid, acute.</i>
— <i>Margin</i> . . .	<i>ciliate.</i>
— <i>Base</i>	<i>subtruncate.</i>
<i>Calyx</i>	<i>herbaceous, glandular-pubescent, 5-fid, short.</i>
— <i>Segments</i> . . .	<i>short, obtuse.</i>
<i>Corol</i>	<i>5-fid.</i>
— <i>Segments</i> . . .	<i>keeled, intire, acute.</i>
— <i>Tube</i>	<i>= (or rather longer than) segments, closely set with pediceled glands.</i>
<i>Stamens</i>	<i>5, scarcely longer than corol, inserted under the ovary.</i>
— <i>Filaments</i> . .	<i>long, filiform, slender, half length from base covered with horizontal white hairs.</i>

— Anthers . . .	oblong, fixed a little below apex of filament.
Pistil.	
— Ovary . . .	short, 5-sided, covered with erect, white, bristle-like bodies.
— Style . . .	= stamens, slender, filiform, thickened a little upwards.
— Stigma . . .	thick, brown, fungous.
Floration . . .	24th June, 1821.
Place	Messrs. Colvill and Son's, King's Road, Chelsea.
Country . . .	New England to Virginia.



6.

AZALEA HISPIDA. (Ph.)

Tall glaucous Azalea.

<i>Flowers</i>	<i>leafy.</i>
<i>Branches</i>	<i>stiff, very hispid.</i>
<i>Leaves</i>	<i>long-lanceolate.</i>
— <i>Margin</i>	<i>ciliate.</i>
— <i>Faces</i>	<i>glaucous.</i>
— <i>Surface</i>	<i>hispid.</i>
— <i>Subface</i>	<i>glab.</i>
— <i>Nerves</i>	<i>setigerous.</i>
<i>Corol-Tube</i>	<i>scarcely longer than segments.</i>
<i>Calyx-Dents</i>	<i>oblong, rotundate.</i>
<i>Filaments</i>	<i>exserted. (Ph.)</i>
<i>Shrub</i>	<i>low.</i>
<i>Branches</i>	<i>brown, glab. hispid upwards.</i>
— <i>Shoots</i>	<i>green hispid.</i>
<i>Leaves</i>	<i>alternate and tufted terminal, long-lanceolate,</i>
— <i>Margin</i>	<i>setaceous-serrulate, ciliate.</i>
— <i>Serrulations</i>	<i>subimbricate (on each other).</i>
— <i>Sinus</i>	<i>sub 0.</i>
— <i>Sides</i>	<i>(exterior) excurved, (interior) sub 0.</i>
— <i>Vertices</i>	<i>setaceous.</i>
— <i>Base</i>	<i>long attenuated.</i>
— <i>Apex</i>	<i>acute-angular, indurated.</i>
— <i>Surface</i>	<i>subhispid, subglaucous.</i>
— <i>Subface</i>	<i>glab. glaucous.</i>
— <i>Axis</i>	<i>prominent, setigerous.</i>
— <i>Branches & Veins</i> }	<i>level with parenchyma.</i>
<i>Inflorescence</i>	<i>a simple, terminal umbel.</i>
<i>Pedicels</i>	<i>green, pubescent, $\frac{1}{2}$ length of tube.</i>
<i>Bracteas</i>	<i>leafy, at base of umbel.</i>
<i>Calyx</i>	<i>pubescent, 5-parted.</i>
— <i>Segments</i>	<i>long!! linear!! obtuse, ciliate.</i>
<i>Corol</i>	<i>5-fid.</i>
— <i>Tube</i>	<i>1$\frac{1}{2}$ as long as segments, subviscous, horizontally glandular-setaceous.</i>
— <i>Segments</i>	<i>lanceolate, intire, keeled, acuminate.</i>
<i>Stamens</i>	<i>5, 3 longer and 2 shorter (sub = corol.)</i>
<i>Pistil</i>	<i>rather exceeding corol.</i>
— <i>Ovary</i>	<i>oblong, long white-haired, shorter than calyx.</i>
— <i>Style</i>	<i>slender, filiform, glab.</i>
— <i>Stigma</i>	<i>simple, (the thickened apex of style).</i>
<i>Floration</i>	<i>13th July, 1821, at Mr. Knight's, King's Road, Chelsea.</i>
<i>Country</i>	<i>N. America. Pennsylvania, New York.</i>

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73



SYMPHORIA RACEMOSA. (Mich. Fl.)

Racemed St. Peter's Wort.

<i>Raceme</i>	<i>terminal.</i>
<i>Corol</i>	<i>bearded inside. (Ph.) Coral.</i>
<i>Shrub</i>	<i>slender, twiggy.</i>
<i>Branches</i>	<i>long, green, glab.</i>
<i>Petiole</i>	<i>very short, glab. hunched.</i>
<i>Leaves</i>	<i>opposite, ovate.</i>
— <i>Margin</i>	<i>intire.</i>
— <i>Base</i>	<i>ovate.</i>
— <i>Apex</i>	<i>obtuse-angular.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>" paler.</i>
— <i>Axis</i>	<i>"</i>
— <i>Branches</i>	<i>vanishing into reticulations.</i>
<i>Flowers</i>	<i>in opposite pairs along the branches.</i>
<i>Pedicels</i>	<i>very short, glab.</i>
<i>Bracteas</i>	<i>2 at base of each calyx, acute, and 2 at base of pairs, lanceolate, connate, = pedicel & smaller bracteas.</i>
<i>Calyx</i>	<i>glab. 5-dentate.</i>
— <i>Dents</i>	<i>acute.</i>
— <i>Tube</i>	<i>short.</i>
<i>Corol</i>	<i>glab. 5-fid.</i>
— <i>Segments</i>	<i>intire, obtuse, long-white-haired inside between the sinuses!</i>
— <i>Sinus</i>	<i>narrow.</i>
<i>Stamens</i>	<i>5, a little shorter than corol, inserted at its sinuses.</i>
— <i>Filaments</i>	<i>shortish, tapering.</i>
— <i>Anthers</i>	<i>oblong, medifxt.</i>
— <i>Lobes</i>	<i>adhering, open at base.</i>
<i>Pistil</i>	<i>short, = $\frac{1}{2}$ length of corol.</i>
— <i>Ovary</i>	<i>hid in the calyx (adhering).</i>
— <i>Style</i>	<i>glab.</i>
— <i>Stigma</i>	<i>simple, projecting, puckered.</i>
<i>Berry</i>	<i>(acrosarc) cream color, suborbicular, pulpy, crowned by persisting minute calyx, 2 celled.</i>
— <i>Epicarp</i>	<i>diaphanous!</i>
— <i>Cells</i>	<i>1-seeded.</i>
— <i>Seeds</i>	<i>elliptic, flat, white, placentated to partition of cells.</i>
<i>Floration</i>	<i>August, 1821.</i>
<i>Place</i>	<i>Messrs. Whitley and Co's., Fulham.</i>
<i>Country</i>	<i>on the banks of the Missouri; on mountains near Lake Mistassins.</i>
<i>Dissection</i>	<i>f. 1. corol cut open to shew the insertion of stamens and pubescence of the inside of corol. — 2. Berry. — 3. Seed.</i>





LYCIUM CHINENSE. (Dh. nov.)

Chinese Boxthorn.

<i>Branches</i>	<i>diffuse, angulate.</i>
<i>Leaves</i>	<i>petiolate, lanceolate, acute.</i>
<i>Calyx</i>	<i>2-3-fid.</i>
<i>Style</i>	<i>scarcely longer than stamens.</i>
<i>Berry</i>	<i>ovate. (Dh. nov.)</i>
<i>Shrub</i>	<i>bushy, pendent.</i>
<i>Branches</i>	<i>yellow brown, 5-ribbed, running from each base of leaf.</i>
<i>Flowers</i>	<i>1-2 together, axillary on the branches to the end.</i>
<i>Pedicels</i>	<i>$\frac{1}{2}$ inch, maculate.</i>
<i>Calyx</i>	<i>glab. shorter than tube of corol, 2-lobate, one segment 2-dentate.</i>
<i>Corol</i>	<i>1-petaled.</i>
— <i>Tube</i>	<i>= segments.</i>
— <i>Segments</i>	<i>5, subimbricate at the divisions, lanceolate, obtuse, intire, glab.</i>
— <i>Mouth</i>	<i>closed.</i>
<i>Stamens</i>	<i>5, = corol, pubescent at base, inserted on middle of tube of corol.</i>
— <i>Filaments</i>	<i>glab. setaceous.</i>
— <i>Anthers</i>	<i>oblong, medifixed, glab.</i>
— <i>Lobes</i>	<i>adnate.</i>
<i>Pistil</i>	
— <i>Ovary</i>	<i>glab. shining, subconic, free.</i>
— <i>Style</i>	<i>„ filiform, = stamens.</i>
— <i>Stigma</i>	<i>large, 2-lobed, puckered.</i>
<i>Berry</i>	<i>oblong.</i>
<i>Petiole</i>	<i>short, sub 0, glab.</i>
<i>Leaves</i>	<i>in bundles under the flowers, alternate, oblong-lanceolate.</i>
— <i>Margin</i>	<i>intire.</i>
— <i>Base & }</i>	<i>acute.</i>
— <i>Apex</i>	
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>„ , atomic.</i>
— <i>Axis</i>	<i>prominent.</i>
— <i>Branches</i>	<i>obsolete.</i>
<i>Floration</i>	<i>30th June, 1821.</i>
<i>Place</i>	<i>Horticultural Society's Garden, Kensington.</i>
<i>Country</i>	<i>The temperate provinces of China.</i>
<i>Dissection</i>	<i>f. 1. calyx.</i>
	<i>—2. corol cut open to shew the stamens and pistil.</i>
	<i>—3. longitudinal section of the berry, to point out the placentation of the seeds.</i>
	<i>—4. a seed.</i>



Painted by J. R. Smith. Colored by T. F. 1853.

Widdell

LYCIUM BARBARUM. (W.)

Waved-leaved Lycium.

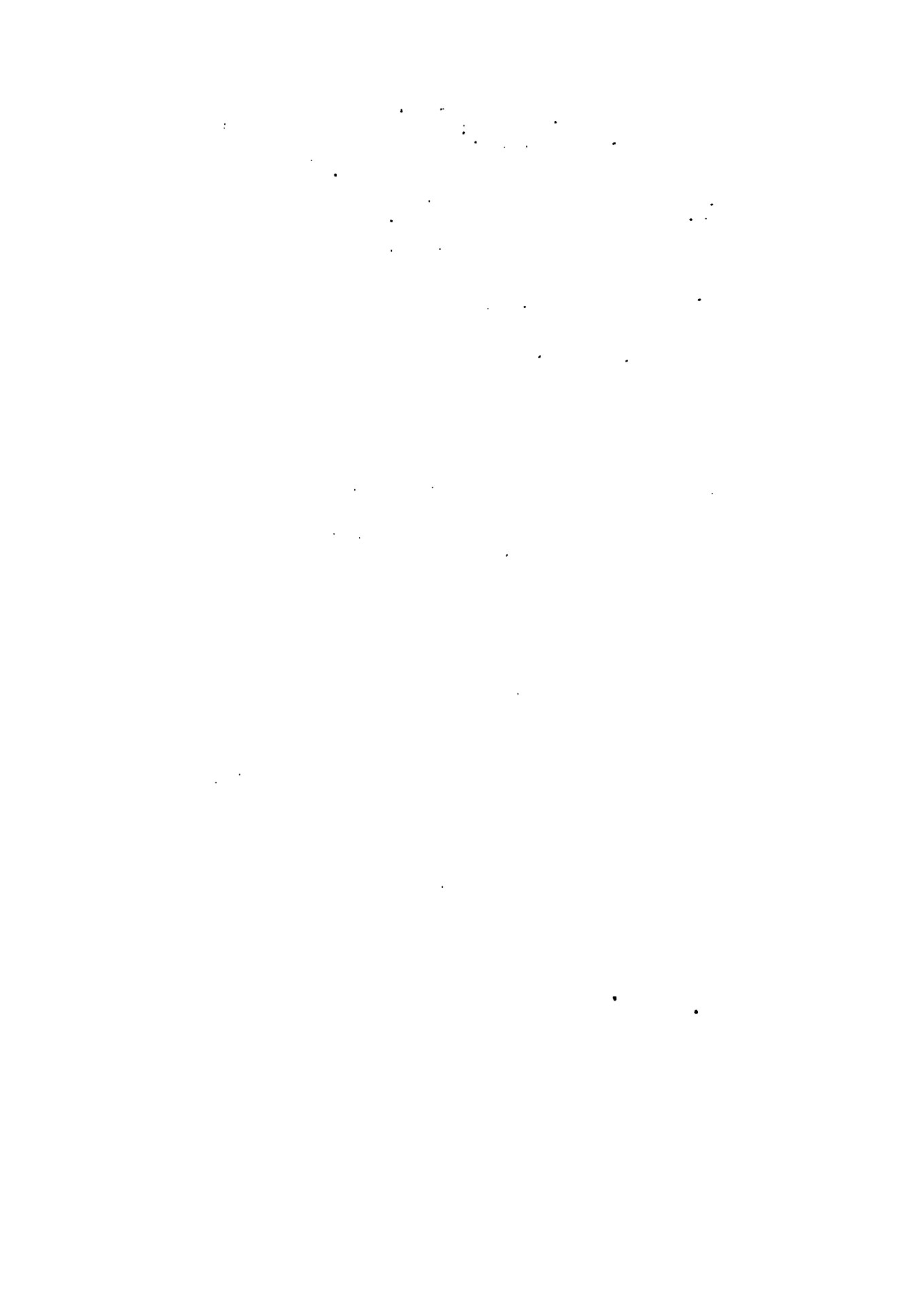
<i>Leaves</i>	<i>alternate, lanceolate.</i>
<i>Branches</i>	<i>dependent.</i>
<i>Germ</i> s	<i>spinescent.</i>
<i>Calyx</i>	<i>sub 3-fid.</i>
<i>Stamens</i>	<i>= limb of corol. (W. E.)</i>
<i>Shrub</i>	<i>weak, decumbent, 4-6 F.</i>
<i>Stem & Branches</i> }	<i>pale brownish yellow, 5-ridged, glab.</i>
<i>Petiole</i>	<i>short, glab.</i>
<i>Leaves</i>	<i>in alternate bundles, thickish, soft, undulate, elliptic.</i>
— <i>Margin</i>	<i>intire.</i>
— <i>Base</i>	<i>rather vanishing into the petiole.</i>
— <i>Apex</i>	<i>acute-angular.</i>
— <i>Surface</i>	<i>glab. sprinkled with glaucous atoms.</i>
— <i>Subface</i>	<i>paler.</i>
— <i>Axis</i>	<i>prominent, glab.</i>
— <i>Branches</i>	<i>fainter.</i>
<i>Inflorescence</i>	<i>2-4-flowered, axillary.</i>
<i>Peduncles</i>	<i>thickening into the calyx, and rather longer than corol, glab.</i>
<i>Calyx</i>	<i>glab. papillose, subequally 5-dent.</i>
— <i>Dents</i>	<i>obtuse-angular, white-edged.</i>
— <i>Sinus</i>	<i>acute.</i>
<i>Corol</i>	<i>rotate, 1 petaled, 5-fid.</i>
— <i>Tube</i>	<i>rather longer than calyx.</i>
— <i>Segments</i>	<i>oblong, obtuse, emarginate.</i>
— <i>Margin</i>	<i>white, ciliate!</i>
— <i>Mouth</i>	<i>closed with hairs.</i>
<i>Stamens</i>	<i>5, rather longer than the corol, inserted at $\frac{1}{2}$ depth of tube and subdecurrent to its base.</i>
— <i>Filaments</i>	<i>slender, white, glab. hairy at insertion!</i>
— <i>Anthers</i>	<i>oblong, cordate, basifixt, white, glab.</i>
— <i>Lobes</i>	<i>adnate, oblong, furrowed.</i>
<i>Pistil</i>	<i>rather longer than stamens.</i>
— <i>Ovary</i>	<i>white, ovate, glab. free.</i>
— <i>Style</i>	<i>filiform, glab.</i>
— <i>Stigma</i>	<i>sub 2-lobed, longish, sericeous.</i>
<i>Berry</i>	<i>elliptic-pyriform, glab.</i>
<i>Floration</i>	<i>26th July, 1822.</i>
<i>Place</i>	<i>Messrs. C. Loddiges and Sons', Hackney.</i>
<i>Country</i>	<i>South of Europe.</i>
<i>Dissection</i>	<i>f. 1. calyx cut and thrown back with pistil in the centre.</i> <i>— 2. corol cut open and spread out, with insertion of stamens and position of the pistil.</i>





BUMELIA CHRYSOPHYLLOIDES. (P.)*Silvery-leaved Bumelia.*

Plant	<i>subspinose.</i>
Leaves	<i>cuneate-lanceolate, obtuse.</i>
— Surface	<i>satiny, shining. (Ph.)</i>
Shrub	<i>weak, spinous, 8-10 F.</i>
Branches	<i>brown, warty, glab.</i>
Petiole	<i>very short.</i>
Leaves	<i>in bundles of 3-4, obovate-lanceolate.</i>
— Margin	<i>intire.</i>
— Base	<i>cuneate.</i>
— Apex	<i>obtuse.</i>
— Surface	<i>glab. rather shining, reticulated.</i>
— Subface	<i>paler, yellowish, covered with a dense satin.</i>
— Axis	<i>prominent, pubescent.</i>
— Branches	<i>subobsolete, „</i>
Inflorescence	<i>alternate, sessile, simple, 8-10-flowered, umbels.</i>
Rays of Umbels	<i>¼ inch, thicker above, pubescent.</i>
Calyx	<i>ventricose, coriaceous, covered with adpressed hairs, inequally and obtusely 5-fid.</i>
— Segments	<i>2 outer and 3 inner.</i>
Corol	<i>coriaceous, 1 petaled, longer than the calyx, inequally divided, 8-10-fid.</i>
— Segments	<i>obtuse.</i>
Nectary	<i>amalgamated with inner coat of corol, 5-fid.</i>
— Segments	<i>obtuse-angular, with membranous waved margins.</i>
Stamens	<i>5, = corol, inserted between it and nectary.</i>
— Filaments	<i>tapering.</i>
— Anthers	<i>medifixt, with cordate base and acute apex.</i>
— Lobes	<i>very narrow, adnate, grooved.</i>
Pistil.	
— Ovary	<i>free, globular, sericeous.</i>
— Style	<i>tapering to a point.</i>
— Stigma	<i>0 apparent.</i>
Floration	<i>9th Sept. 1822.</i>
Place,	<i>Messrs. Whitley and Co's., Fulham.</i>
Country	<i>Sea-coast of Carolina and Georgia.</i>
Dissections	<i>f. 1. calyx cut open to show the ovary and style. —2. corol laid open presenting the nectary, stamens, and corol.</i>





RHAMNUS LATIFOLIUS. (W.)

Broad-leaved Buckthorn.

<i>Plant</i>	<i>unarmed.</i>
<i>Flowers</i>	<i>1-gynous, bisexual.</i>
<i>Calyx</i>	<i>villous.</i>
<i>Leaves</i>	<i>elliptic, intire, acuminate.</i>
— <i>Base</i>	<i>rounded. (W. E.)</i>
<i>Shrub</i>	6-8 F.
<i>Branches</i>	glab. dark purple-brown, with white atoms.
<i>Petiole</i>	purple, $\frac{1}{3}$ =length of leaf, covered with projecting hairs.
<i>Leaves</i>	near the tops of the shoots, alternate, elliptic.
— <i>Margin</i>	intire.
— <i>Base</i>	round.
— <i>Apex</i>	subobtusely acuminate.
— <i>Surface</i>	glab.
— <i>Subface</i>	"
— <i>Axis</i>	very prominent, pubescent.
— <i>Branches</i>	simple, parallel, "
<i>Inflorescence</i> . .	axillary, about 8-flowered.
<i>Calyx</i>	pubescent, campanulate, 5-dentate.
— <i>Segments</i>	acute-angular.
— <i>Sinus</i>	"
<i>Corol</i>	5-petaled.
— <i>Petals</i>	inserted at sinuses of calyx and shorter, orbicular, intire.
<i>Stamens</i>	5, inserted near the claws of petals on the inner fleshy part of the calyx.
— <i>Filaments</i>	very short.
— <i>Anthers</i>	brown, oblong, transversed on the filaments.
<i>Pistil.</i>	
— <i>Ovary</i>	orbicular, sericeous.
— <i>Style</i>	short, thick.
— <i>Stigma</i>	sub 2-lobed, globular.
<i>Berry</i>	globular, 3-celled.
<i>Floration</i>	19th June, 1821.
<i>Place</i>	Mr. Jenkins's Botanic Garden, New Road.
<i>Country</i>	Azores.
<i>Dissection</i>	f. 1. and 2. berries. —3. transverse section of the berry, showing the 3 cells containing the seeds.



12.

ITEA VIRGINICA. (W.)

Virginian Itea.

<i>Leaves</i>	<i>oblong, serrate.</i>
<i>Spike</i>	<i>pubescent. (Ph.)</i>
<i>Shrub</i>	<i>low, erect.</i>
<i>Stem</i>	<i>cylindric, glab.</i>
<i>Branches</i>	<i>pubescent.</i>
<i>Petiole</i>	<i>very short, reddish, flattened above, pubescent.</i>
<i>Leaves</i>	<i>alternate, elliptic-lanceolate.</i>
— <i>Margin</i>	<i>serrulate.</i>
— <i>Serratures</i>	<i>small.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>(exterior) excurved, (interior) sub 0.</i>
— <i>Vertices</i>	<i>fleshy.</i>
— <i>Base</i>	<i>attenuated.</i>
— <i>Apex</i>	<i>obtusely acuminate.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>(parenchyma) glab.</i>
— <i>Axis &</i> }	<i>prominent, few-haired.</i>
— <i>Branches</i> }	
<i>Spikes</i>	<i>3-inch, axillary and terminal.</i>
<i>Peduncles</i>	<i>reddish, pubescent.</i>
<i>Pedicels</i>	<i>„ „ , short.</i>
<i>Calyx</i>	<i>glab. 5-fid.</i>
— <i>Segments</i>	<i>tapering to an acute point.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>fixed on the calyx, rather longer than stamens,</i> <i>intire, acute.</i>
— <i>Base</i>	<i>pubescent.</i>
<i>Stamens</i>	<i>5, between the petals, inserted at base of each</i> <i>segment of calyx.</i>
— <i>Filaments</i>	<i>tapering.</i>
— <i>Base</i>	<i>pubescent.</i>
— <i>Anthers</i>	<i>cordate.</i>
— <i>Lobes</i>	<i>(not sulcate).</i>
<i>Pistil</i>	<i>= stamens.</i>
— <i>Ovary</i>	<i>flask-shaped, horizontally pubescent, with a faint</i> <i>line each side.</i>
— <i>Style</i>	<i>= length of ovary, glab.</i>
— <i>Stigma</i>	<i>simple, rather projecting, fungous.</i>
<i>Floration</i>	<i>6th August, 1821.</i>
<i>Place</i>	<i>Arboretum, Kew.</i>
<i>Country</i>	<i>Pennsylvania to Carolina.</i>



The following is a list of the names of the plants
 which were collected by the author during his
 expedition to the interior of the State of
 California, in the year 1841.

The first of these plants is the
 "Yucca elata," which is a very common
 plant in the interior of the State.

The second is the "Yucca baccata," which
 is also very common in the interior of the
 State.

The third is the "Yucca filifera," which
 is a very common plant in the interior of
 the State.



VITIS RIPARIA. (Mich. Fl.)

Sweet-scented Vine.

<i>Leaves</i>	<i>inequally incised-dentate, rather shortly 3-fid.</i>
<i>Petioles,</i> <i>Nerves &</i> <i>Margin</i> } . . .	<i>pubescent. (Ph.)</i>
<i>Shrub</i>	<i>twining.</i>
<i>Petiole</i>	<i>= $\frac{1}{3}$ length of leaf, pubescent, red.</i>
<i>Leaves</i>	<i>alternate, sub 3-lobate, cirrhose.</i>
— <i>Section</i>	<i>shallow.</i>
— <i>Lobes</i>	<i>acute, dentate.</i>
— <i>Dents</i>	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>bowform.</i>
— <i>Vertices</i>	<i>indurated.</i>
— <i>Base</i>	<i>deeply cordate.</i>
— <i>Apex</i>	<i>acuminate.</i>
— <i>Faces</i>	<i>glab.</i>
— <i>Nerves</i>	<i>pubescent, 5 principal ones from a point at base of leaf, branched and reticulated.</i>
<i>Racemes</i>	<i>alternate, opposite to the leaves.</i>
<i>Peduncles &</i> <i>Pedicels</i> } . . .	<i>glab.</i>
<i>Bracteas</i>	<i>brown, 2 dentate.</i>
<i>Calyx</i>	<i>very short, faintly scalloped.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>obtuse, intire, united at tips!</i>
<i>Stamens</i>	<i>5, inserted under the ovary.</i>
— <i>Filaments</i>	<i>flat.</i>
— <i>Anthers</i>	<i>submedifixt.</i>
— <i>Lobes</i>	<i>wholly adnate.</i>
<i>Pistil.</i>	
— <i>Ovary</i>	<i>round, free.</i>
— <i>Style</i>	<i>0.</i>
— <i>Stigma</i>	<i>puckered.</i>
<i>Floration</i>	<i>19th June, 1821.</i>
<i>Place</i>	<i>Mr. ——— Knight's, King's Road, Chelsea.</i>
<i>Country</i>	<i>on the gravelly shores and islands of rivers, Pennsylvania to Carolina.</i>

THE HIMALAYAS

The Himalayas

The Himalayas are the highest mountains in the world.

(1)

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.

The Himalayas are the highest mountains in the world.



J. Harb. Del.

Pub. by J. & A. Arch. Cornhill. Feb. 1823.

BUPLEURUM FRUTICOSUM. (W.)

Shrubby Hare's Ear.

Leaves	<i>lanceolate-obovate, very intire, sessile. (W.)</i>
Shrub	subherbaceous, branched.
Stem & } Branches } . .	glab. cylindric.
Leaves	alternate, sessile, obovate-lanceolate.
— Margin	intire, cartilaginous.
— Base	rather tapering, and inserted on the stem.
— Apex	obtuse.
— Faces	glab.
— Axis	subprominent, glab.
— Branches . .	0.
— Veins	reticulated.
Inflorescence . .	a compound umbel.
Umbel	generally 5-rayed, 1½ inch.
— Umbelet . . .	13-many rayed, shorter and regular.
— Rays	of both glab. obsoletely lirate.
Involucre	5-folioled, reflected.
— Folioles . . .	lanced, acute.
— Margin	membranous, intire.
— Faces	glab.
Involucret	many folioled, and like those of the involucre.
Calyx	sub 0.
Corol	5-petaled.
— Petals	involute.
Stamens	5, short, inserted under the disk.
— Filaments . .	short, = anthers.
— Anthers	obcordate, basifixt.
— Lobes	(not grooved).
Disk	convex, covering the ovary.
Pistil	
— Ovary	below the disk.
— Style	0.
— Stigma	very small.
Seeds	2, glab. obtusely lirate-striate.
Floration	6th Aug. 1821.
Place	Arboretum, Kew.
Country	South of France and the East.
Dissection . . .	f. 1. a separate flower.

MUSEUM OF THE UNIVERSITY OF CHICAGO

Chicago, Illinois, U.S.A.

170. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
171. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
172. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
173. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
174. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
175. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
176. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
177. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
178. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
179. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
180. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
181. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
182. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
183. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
184. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
185. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
186. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
187. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
188. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
189. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium
190. <i>Chenopodium leptophyllum</i> (Pursh) Wats.	Chenopodium



J. Hart

Painted by J. A. Arch. Cornhill. Feb 11 1823.

W. 11

15.

RHUS GLABRUM. (W.)

Smooth Sumac.

<i>Plant</i>	<i>intirely glab.</i>
<i>Leaves</i>	<i>many-paired-pinnate.</i>
<i>Leaflets</i>	<i>lanceolate-oblong, serrate.</i>
— <i>Subface</i>	<i>whitish.</i>
<i>Fruit</i>	<i>holosericeous. (Ph.)</i>
<i>Shrub</i>	10-12 F.
<i>Branches</i>	hunched, glandular, warty.
<i>Petiole</i>	(common), 14 inch.
— <i>”</i>	(foliolar) glab. very short.
<i>Leaves</i>	alternate, impair-pinnate, 8½ pair.
— <i>Leaflets</i>	ovate-lanceolate.
— <i>Margin</i>	serrate.
— <i>Serratures</i>	obtuse-angular.
— <i>Sinus</i>	”
— <i>Sides</i>	excurved.
— <i>Vertices</i>	naked.
— <i>Base</i>	ovate.
— <i>Apex</i>	acuminate.
— <i>Surface</i>	dark green, glab. plicate.
— <i>Subface</i>	glaucous, ”
— <i>Axis</i>	glab. prominent.
— <i>Branches</i>	” subopposite.
<i>Raceme</i>	supercompound, erect, terminal.
<i>Peduncles</i>	continuous with the branches, short haired.
<i>Pedicels</i>	short-haired.
<i>Bractees</i>	numerous, setaceous, scarious.
<i>Calyx</i>	5-fid, covered with short hairs.
— <i>Segments</i>	lanceolate, acute.
— <i>Sinus</i>	obtuse-angular.
<i>Corol</i>	5-petaled.
— <i>Petals</i>	elliptic, concave, acute.
— <i>Claw</i>	very short.
<i>Stamens</i>	shorter than petals, inserted on the calyx under the edge of the disk.
— <i>Filaments</i>	short.
— <i>Anthers</i>	orbicular, 2-lobed.
<i>Disk</i>	thin, circular, subcrenate, yellow.
<i>Pistil</i>	
— <i>Ovary</i>	glab. free.
— <i>Style</i>	0, or very short.
— <i>Stigma</i>	2-3, clavate.
<i>Floration</i>	20th Aug. 1821.
<i>Place</i>	Mr. ——— Knight's, King's Road, Chelsea.
<i>Country</i>	New England to Carolina.
<i>Dissection</i>	f. 1. flower as seen from above with the stamens and stigma.
	—2. ovaries swelling into fruit.

1





J. Hart. Del.

Publ. by J. & A. Arch. Cornhill. Feb. 1. 1823.

W. & A. G. & Co. Sc.

RHUS ELEGANS. (W.) (Female.)

Scarlet Sumach.

<i>Leaves</i>	<i>pinnate.</i>
— <i>Leaflets</i>	<i>lanceolate, serrate.</i>
— <i>Faces</i>	<i>naked.</i>
<i>Flowers</i>	<i>dioicous.</i> (H. K.)
<i>Shrub</i>	7-8 F.
<i>Stem.</i>	
— <i>Bark</i>	pale brown, glab. warty.
— <i>Branches</i>	glab.
<i>Petiole</i>	(common) 13 inch, purplish green, glab. lirate-sulcate.
”	(foliolar) sub 0.
<i>Leaves</i>	alternate, impair-pinnate, $8\frac{1}{2}$ pairs.
— <i>Leaflets</i>	subcordate, long-lanceolate.
— <i>Margin</i>	remotely dentate.
— <i>Dents</i>	short, obtuse-angular.
— <i>Sides</i>	(outer) excurved, (inner) short, straitish.
— <i>Vertices</i>	obtuse, fleshy.
— <i>Base</i>	subcordate.
— <i>Apex</i>	acuminate.
— <i>Surface</i>	dark green, rather shining, glab.
— <i>Subface</i>	glaucous, glab.
— <i>Axis</i>	prominent, ”
— <i>Branches</i>	sub ” ”
<i>Inflorescence</i>	a superdecompound raceme.
<i>Peduncles</i>	subsericeous.
<i>Pedicels</i>	” , = flower.
<i>Calyx</i>	5 parted.
— <i>Segments</i>	lanceolate, acute.
<i>Corol</i>	5 petaled.
— <i>Petals</i>	alternating with sinuses of the calyx, lanceolate, acute, veined, sericeous.
<i>Pistil.</i>	
— <i>Ovary</i>	orbicular, crimson-velvety! = corol, free.
— <i>Style</i>	0.
— <i>Stigmas</i>	3, clubbed, sessile on the ovary.
<i>Floration</i>	7th Aug. 1822.
<i>Place</i>	Mr. James Lee's, Hammersmith.
<i>Country</i>	Carolina.
<i>Dissection</i>	f. 1. corol as seen from above with the central disk and site of ovary. —2. ovary changing to fruit.



RHUS TYPHINUM. (W.)

Virginian Sumach.

<i>Plant</i>	<i>subarborescent.</i>
<i>Branches & } Petioles</i>	<i>very villous.</i>
<i>Leaves</i>	<i>many-pair-pinnate.</i>
— <i>Leaflets</i>	<i>lanceolate-oblong, sharply serrate.</i>
— <i>Subface</i>	<i>subtomentose. (Ph.)</i>
<i>Shrub</i>	10-12 F. branching.
<i>Branches</i>	cylindric, herbaceous, densely covered with horizontal hairs, intermixed with minute scarlet atoms.
<i>Petiole</i>	(common) 1 F. densely covered with horizontal hairs.
”	(foliolar) 0.
<i>Leaves</i>	alternate, impair-pinnate.
— <i>Leaflets</i>	subcordate, long-lanceolate, 10½ pair.
— <i>Margin</i>	closely adprest-serrate.
— <i>Serratures</i>	short.
— <i>Sinus</i>	acute.
— <i>Sides</i>	(exterior) excurved, (interior) sub 0.
— <i>Vertices</i>	naked.
— <i>Base</i>	intire, subcordate.
— <i>Apex</i>	” , acuminate.
— <i>Surface</i>	glab.
— <i>Subface</i>	paler, with whitish, close, projecting hairs.
— <i>Axis & } Branches</i>	prominent, white-haired.
<i>Inflorescence</i>	spicate-racemose, compound, 9½ inches.
— <i>Spikes</i>	about 30.
— <i>Racemes</i>	compound, about 2 inches.
<i>Peduncles</i>	(primary and secondary) cylindric, densely covered with horizontal hairs.
— <i>Pedicels</i>	very short.
<i>Bractees</i>	at base of pedicels, linear, pubescent.
<i>Calyx</i>	pubescent, 5-parted.
— <i>Segments</i>	lanceolate, acute.
— <i>Margin</i>	ciliate with long white hairs.
<i>Corol</i>	5-petaled, inserted between bases of segments of calyx.
— <i>Petals</i>	obovate-lanced, subsericeous, tinged rose-color at apices, twice as long as the calyx.

— Margin . . .	intire.
Stamens . . .	5, shorter than the petals, inserted on the edge of a small, thin, brown, 5-lobed disk, at base of segments of calyx.
— Filaments . . .	= anthers, flat, tapering.
— Anthers . . .	elliptic, basifixt.
— Lobes . . .	adnate, oblong, grooved.
Pistil.	
— Styles . . .	2, short.
— Stigma . . .	purple, clubbed.
Floration . . .	2d July, 1822.
Place	Mr. James Lee's, Hammersmith.
Country . . .	Canada to Virginia.
Dissection . .	f. 1. calyx. —2. corol as seen from above. —3. ovary and stigma detached.



E. Smith. Del.

Pub. by J. & A. Arch. Comhill. Nov. 1783.

W.

RHUS TYPHINUM. (Female.)*Virginian Sumach.*

Shrub	8-10 F.
Branches	covered with dense, horizontal, and reflected pubescence.
Petiole	(common), horizontally pubescent.
"	(foliolar), sub 0.
Leaves	alternate, impair-pinnate.
— Leaflets	opposite, sessile, 8½ pair, ovate-lanceolate.
— Margin	serrate.
— Serratures	obtuse-angular.
— Sinus	acute.
— Sides	both excurved.
— Vertices	naked.
— Base	ovate, 1 side protruded.
— Apex	long-acuminate.
— Surface	glab.
— Subface	paler, pubescent.
— Axis	prominent, reddish, pubescent.
— Branches.	" alternate, "
Spike	compound, 3-5 inches.
Perigone	5-parted, long-haired.
— Segments	lanceolate, acute.
Pistil.	
— Ovary	flat, broader than high, densely covered with long purple hairs.
— Style	0.
— Stigma	2, sessile, oblong, brown, lirate.
Floration	10th Aug. 1821.
Place	Mr. James Lee's, Hammersmith.
Country	Canada to Virginia.
Observation.	
— Tree	18 F. with suborbicular head.
— Stem	7 F.
— Epidermes	glab. lead-brown. (At Messrs. Rolls and Son's, King's Road.)

THE JOURNAL OF THE

ROYAL SOCIETY OF MEDICINE

Vol. 95, No. 1, February 2002

ISSN 0954-6794 (print) / 1364-0501 (online)

Subscription price: £120.00 (UK) / \$240.00 (USA)

Single issue price: £12.00 (UK) / \$24.00 (USA)

Copyright © 2002 Royal Society of Medicine

Printed in the United Kingdom

Typeset by the Royal Society of Medicine

Distributed by Taylor & Francis Ltd

For further information, contact:

Royal Society of Medicine, 11 St Andrews Place, Regents Park, London NW1 4NU, UK

Telephone: +44 (0)20 7635 1200, Fax: +44 (0)20 7635 1201

E-mail: subscriptions@rsm.ac.uk

Website: www.rsm.ac.uk

For advertising rates, contact: advertising@rsm.ac.uk

For circulation and distribution, contact: circulation@rsm.ac.uk

For editorial queries, contact: editorial@rsm.ac.uk

For editorial queries, contact: editorial@rsm.ac.uk

For editorial queries, contact: editorial@rsm.ac.uk

For editorial queries, contact: editorial@rsm.ac.uk

For editorial queries, contact: editorial@rsm.ac.uk



J. Hart. Del.

B. by J. A. Arden, Cornhill. March 1852.

RHUS VERNIX. (W.)

Varnish Sumach.

Plant	<i>arborescent.</i>
Leaves	<i>many-pair-pinnate,</i>
— Leaflets	<i>oval, abruptly acuminate, intire.</i>
Panicle	<i>lax.</i>
Flowers	<i>dioicous. (bisexual in my specimen).</i>
Fruit	<i>glab. (Ph.)</i>
<hr/>	
Shrub	<i>upright, 5-6 F.</i>
Branches	<i>brown, glab., warty.</i>
— Branchlets . .	<i>purplish.</i>
<hr/>	
Petiole	<i>(common) purple, glab., 6 inches.</i>
”	<i>(foliolar) sub 0.</i>
<hr/>	
Leaves	<i>alternate, impair-pinnate.</i>
— Leaflets	<i>elliptic, 5½ pair.</i>
— Margin	<i>very intire (subsinoous).</i>
— Base	<i>rather tapered.</i>
— Apex	<i>acuminate.</i>
— Surface	<i>glab. shining.</i>
— Subface	<i>set with short, thick, gland-like, fleshy hairs.</i>
— Axis	<i>prominent, glab.</i>
— Branches . . .	<i>alternate, vanishing.</i>
<hr/>	
Raceme	<i>axillary, compound, slender, erect, 6 inches.</i>
— Racemules . .	<i>alternate.</i>
Peduncles & } . .	<i>covered with very short, fine, hooked hairs.</i>
Pedicels	
<hr/>	
Bracteas	<i>at branching of pedicels, small, acute.</i>
<hr/>	
Calyx	<i>glab. 5-parted.</i>
— Segments	<i>lanceolate, acute.</i>
— Margin	<i>intire.</i>
— Sinus	<i>acute.</i>
Corol	<i>5-petaled.</i>
— Petals	<i>alternating with segments of calyx, linear-lanceolate,</i>
	<i>intire.</i>
Stamens	<i>5, longer than petals, inserted on the calyx under</i>
	<i>the edge of the disk.</i>
— Filaments . . .	<i>glab. subulate.</i>
— Anthers	<i>yellow, elliptic, basifixt.</i>
— Lobes	<i>adnate, grooved.</i>
Disk	<i>circular, waxy, thickish, intire.</i>

Pistil	$\frac{1}{2}$ length of stamens.
— Style	very short, thick.
— Stigma	3, small.
Floration	17th June, 1822.
Place	Mr. Rollinson's, Tooting.
Country	Canada to Carolina.
Dissection	f. 1. Calyx, corol, and stamens. —2. disk, ovary, style and stigma, with one stamen, to shew the insertion—also a segment of calyx and a petal.





VIBURNUM NUDUM. (W.)

Oval-leaved Viburnum.

<i>Plant</i>	<i>glab.</i>
<i>Cymes</i>	<i>ebracteate, pedunculate.</i>
<i>Petioles</i>	<i>short.</i>
<i>Leaves</i>	<i>oval.</i>
— <i>Margin</i>	<i>revolute, subintire.</i>
<i>Berry</i>	<i>black. (Ph.)</i>
<i>Shrub</i>	<i>erect.</i>
<i>Branches</i>	<i>cylandric, brown, warty.</i>
<i>Petiole</i>	<i>short, sparsed with brown atoms, grooved above.</i>
<i>Leaves</i>	<i>opposite, elliptic.</i>
— <i>Margin</i>	<i>intire, bordered with a pinkish membrane.</i>
— <i>Base</i>	<i>rather tapered.</i>
— <i>Apex</i>	<i>obtuse.</i>
— <i>Surface</i>	<i>glab. shining.</i>
— <i>Subface</i>	<i>„ , covered with reddish spangles.</i>
— <i>Axis</i>	<i>prominent</i> }
— <i>Branches</i>	<i>vanishing</i> } <i>all covered with brown atoms.</i>
<i>Samel</i>	<i>pedunculated, compound.</i>
— <i>Rays</i>	<i>sparsed with solitary hairs and brown scales.</i>
<i>Calyx</i>	<i>tubular, strewed with brown scales, 5-dentate.</i>
— <i>Dents.</i>	
— <i>Margin</i>	<i>lacerate-ciliate.</i>
— <i>Sinus</i>	<i>acute.</i>
<i>Corol</i>	<i>1-petaled, 5-6-fid.</i>
— <i>Segments</i>	<i>ovate, intire, bases imbricating each other.</i>
<i>Stamens</i>	<i>5, longer than corol, inserted at base of its tube, under each sinus.</i>
— <i>Filaments</i>	<i>zig-zag.</i>
— <i>Anthers</i>	<i>oblong, medifxt.</i>
— <i>Lobes</i>	<i>adnate, sulcate.</i>
<i>Pistil</i>	<i>short.</i>
— <i>Ovary</i>	<i>(the free part) glab. conic, $\frac{1}{2}$ adhering.</i>
<i>Floration</i>	<i>24th July, 1821.</i>
<i>Place</i>	<i>Mr. James Lee's, Hammersmith.</i>
<i>Country</i>	<i>Canada to Georgia.</i>

ANNEXURE (W)

Annexure (W)

1. Name of the person	
2. Address	
3. Date of birth	
4. Date of admission	
5. Date of completion	
6. Name of the institution	
7. Name of the course	
8. Name of the teacher	
9. Name of the subject	
10. Name of the book	
11. Name of the chapter	
12. Name of the section	
13. Name of the topic	
14. Name of the question	
15. Name of the answer	
16. Name of the mark	
17. Name of the grade	
18. Name of the result	
19. Name of the certificate	
20. Name of the diploma	
21. Name of the degree	
22. Name of the postgraduate	
23. Name of the research	
24. Name of the thesis	
25. Name of the dissertation	
26. Name of the monograph	
27. Name of the book review	
28. Name of the article	
29. Name of the chapter	
30. Name of the section	
31. Name of the topic	
32. Name of the question	
33. Name of the answer	
34. Name of the mark	
35. Name of the grade	
36. Name of the result	
37. Name of the certificate	
38. Name of the diploma	
39. Name of the degree	
40. Name of the postgraduate	
41. Name of the research	
42. Name of the thesis	
43. Name of the dissertation	
44. Name of the monograph	
45. Name of the book review	
46. Name of the article	
47. Name of the chapter	
48. Name of the section	
49. Name of the topic	
50. Name of the question	
51. Name of the answer	
52. Name of the mark	
53. Name of the grade	
54. Name of the result	
55. Name of the certificate	
56. Name of the diploma	
57. Name of the degree	
58. Name of the postgraduate	
59. Name of the research	
60. Name of the thesis	
61. Name of the dissertation	
62. Name of the monograph	
63. Name of the book review	
64. Name of the article	
65. Name of the chapter	
66. Name of the section	
67. Name of the topic	
68. Name of the question	
69. Name of the answer	
70. Name of the mark	
71. Name of the grade	
72. Name of the result	
73. Name of the certificate	
74. Name of the diploma	
75. Name of the degree	
76. Name of the postgraduate	
77. Name of the research	
78. Name of the thesis	
79. Name of the dissertation	
80. Name of the monograph	
81. Name of the book review	
82. Name of the article	
83. Name of the chapter	
84. Name of the section	
85. Name of the topic	
86. Name of the question	
87. Name of the answer	
88. Name of the mark	
89. Name of the grade	
90. Name of the result	
91. Name of the certificate	
92. Name of the diploma	
93. Name of the degree	
94. Name of the postgraduate	
95. Name of the research	
96. Name of the thesis	
97. Name of the dissertation	
98. Name of the monograph	
99. Name of the book review	
100. Name of the article	



VIBURNUM LENTAGO. (W.)

Tree Viburnum.

<i>Plant</i>	<i>glab.</i>
<i>Cymes</i>	<i>sessile.</i>
<i>Petioles</i>	<i>marginate, undulate.</i>
<i>Leaves</i>	<i>broad-ovate, acuminate, hooked-serrate.</i>
<i>Berry</i>	<i>black. (Ph.)</i>
<i>Shrub</i>	6 F.
<i>Branches</i>	pale-brown, glab.
<i>Petiole</i>	long, with undulate margin!
<i>Leaves</i>	opposite, ovate-elliptic-lanceolate.
— <i>Margin</i>	hooked-serrate.
— <i>Serratures.</i>	
— <i>Sinus</i>	obtuse.
— <i>Sides</i>	(exterior) bowed outwards, (interior) incurved.
— <i>Vertices</i>	curved inwards.
— <i>Base</i>	= & in =.
— <i>Apex</i>	acuminate.
— <i>Faces</i>	glab.
— <i>Axis</i>	prominent.
— <i>Branches</i>	alternate.
<i>Cymes</i>	sessile.
<i>Peduncles & } Pedicels</i>	herbaceous, strewed with brown atoms.
<i>Involucre</i>	only a rudiment.
<i>Calyx</i>	short, 5-parted.
— <i>Segments</i>	oblong, obtuse, intire.
<i>Corol</i>	5 parted.
— <i>Segments</i>	obtuse, intire, glab.
<i>Stamens</i>	5, shorter than corol, inserted at its base below each sinus.
— <i>Filaments</i>	short.
— <i>Anthers</i>	oblong, medifixt, 4-alate.
<i>Pistil</i>	
— <i>Ovary</i>	obconic.
— <i>Stigma</i>	puckered.
<i>Floration</i>	June, 1821.
<i>Place</i>	Messrs. Colvill and Son's, King's Road, Chelsea.
<i>Country</i>	New England to Carolina.

VERBODEN LUSTIG (W)

The Verbood

1. Verbood	Verbood
2. Verbood	Verbood
3. Verbood	Verbood
4. Verbood	Verbood
5. Verbood	Verbood
6. Verbood	Verbood
7. Verbood	Verbood
8. Verbood	Verbood
9. Verbood	Verbood
10. Verbood	Verbood
11. Verbood	Verbood
12. Verbood	Verbood
13. Verbood	Verbood
14. Verbood	Verbood
15. Verbood	Verbood
16. Verbood	Verbood
17. Verbood	Verbood
18. Verbood	Verbood
19. Verbood	Verbood
20. Verbood	Verbood
21. Verbood	Verbood
22. Verbood	Verbood
23. Verbood	Verbood
24. Verbood	Verbood
25. Verbood	Verbood
26. Verbood	Verbood
27. Verbood	Verbood
28. Verbood	Verbood
29. Verbood	Verbood
30. Verbood	Verbood
31. Verbood	Verbood
32. Verbood	Verbood
33. Verbood	Verbood
34. Verbood	Verbood
35. Verbood	Verbood
36. Verbood	Verbood
37. Verbood	Verbood
38. Verbood	Verbood
39. Verbood	Verbood
40. Verbood	Verbood
41. Verbood	Verbood
42. Verbood	Verbood
43. Verbood	Verbood
44. Verbood	Verbood
45. Verbood	Verbood
46. Verbood	Verbood
47. Verbood	Verbood
48. Verbood	Verbood
49. Verbood	Verbood
50. Verbood	Verbood
51. Verbood	Verbood
52. Verbood	Verbood
53. Verbood	Verbood
54. Verbood	Verbood
55. Verbood	Verbood
56. Verbood	Verbood
57. Verbood	Verbood
58. Verbood	Verbood
59. Verbood	Verbood
60. Verbood	Verbood
61. Verbood	Verbood
62. Verbood	Verbood
63. Verbood	Verbood
64. Verbood	Verbood
65. Verbood	Verbood
66. Verbood	Verbood
67. Verbood	Verbood
68. Verbood	Verbood
69. Verbood	Verbood
70. Verbood	Verbood
71. Verbood	Verbood
72. Verbood	Verbood
73. Verbood	Verbood
74. Verbood	Verbood
75. Verbood	Verbood
76. Verbood	Verbood
77. Verbood	Verbood
78. Verbood	Verbood
79. Verbood	Verbood
80. Verbood	Verbood
81. Verbood	Verbood
82. Verbood	Verbood
83. Verbood	Verbood
84. Verbood	Verbood
85. Verbood	Verbood
86. Verbood	Verbood
87. Verbood	Verbood
88. Verbood	Verbood
89. Verbood	Verbood
90. Verbood	Verbood
91. Verbood	Verbood
92. Verbood	Verbood
93. Verbood	Verbood
94. Verbood	Verbood
95. Verbood	Verbood
96. Verbood	Verbood
97. Verbood	Verbood
98. Verbood	Verbood
99. Verbood	Verbood
100. Verbood	Verbood



VIBURNUM PYRIFOLIUM. (Lam. Enc.)

Pear-leaved Viburnum.

<i>Plant</i>	<i>glab.</i>
<i>Leaves</i>	<i>ovate, subacute, subserrate.</i>
<i>Petiole</i>	<i>smooth.</i>
<i>Fruit</i>	<i>ovate-oblong.</i>
<i>Cyme</i>	<i>subpedunculate. (Ph.)</i>
<i>Shrub</i>	<i>much spreading, 4-5 F.</i>
<i>Branches</i>	<i>cylindric, glab., purplish.</i>
<i>Petiole</i>	<i>= $\frac{1}{2}$ length of leaf, red, round below, grooved above, scaly-atomed.</i>
— <i>Margin</i>	<i>subundulate.</i>
<i>Leaves</i>	<i>opposite, orbicular.</i>
— <i>Margin</i>	<i>finely and equally hooked-serrulate.</i>
— <i>Serratures</i>	<i>subimbricate, reddish.</i>
— <i>Sinus</i>	<i>obtuse.</i>
— <i>Sides</i>	<i>(exterior) excurved, (interior) very small.</i>
— <i>Vertices</i>	<i>naked.</i>
— <i>Base</i>	<i>ovate or subcordate.</i>
— <i>Apex</i>	<i>obtuse-angular.</i>
— <i>Surface</i>	<i>glab. (not shining) with scaly atoms on the axis.</i>
— <i>Subface</i>	<i>shining.</i>
— <i>Axis</i>	<i>prominent, glab.</i>
— <i>Branches & Veins</i>	<i>obsolete.</i>
<i>Cymes</i>	<i>lateral and terminal, sessile.</i>
<i>Peduncles & Pedicels</i>	<i>sparsed with minute brown points.</i>
<i>Involucels</i>	<i>3-4, very small, tinged rose-color, lanceolate, acute and minuter ones at the subdivisions of the cymes.</i>
<i>Calyx</i>	<i>subtubulate, rather rigid, 5-fid.</i>
— <i>Segments</i>	<i>truncate.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-parted.</i>
— <i>Segments</i>	<i>orbicular, intire.</i>
<i>Stamens</i>	<i>5, = corol, inserted in its mouth at each sinus.</i>
— <i>Filaments</i>	<i>glab. white.</i>
— <i>Anthers</i>	<i>yellow, oblong, medifxt.</i>
— <i>Lobes</i>	<i>adnate, oblong, grooved at sides.</i>
<i>Pistil</i>	<i>short.</i>
— <i>Ovary</i>	<i>$\frac{1}{2}$ hid in calyx (semiadhering).</i>
— <i>Style</i>	<i>very short.</i>
— <i>Stigma</i>	<i>scarcely apparent.</i>
<i>Floration</i>	<i>22d May, 1822.</i>
<i>Place</i>	<i>Messrs. Whitley and Co's., Fulham.</i>
<i>Country</i>	<i>Pennsylvania, New Jersey, &c.</i>
<i>Dissection</i>	<i>f. 1. calyx, part of the style and stigma. —2. corol as seen from above, with insertion of stamens.</i>

Pl. 23.



ED Smith.

Publ by J & A Arch. Cornhill. M^o 21 1843.

WILLI. J.

VIBURNUM PRUNIFOLIUM. (W.)

Plum-leaved Viburnum.

<i>Plant</i>	<i>glab.</i>
<i>Branches</i>	<i>spreading.</i>
<i>Leaves</i>	<i>subrotund, crenate-serrate.</i>
<i>Petiole</i>	<i>smooth.</i>
<i>Cyme</i>	<i>sessile.</i>
<i>Fruit</i>	<i>rotund. (Ph.)</i>
<i>Shrub</i>	<i>bushy, 10 F.</i>
<i>Branches</i>	<i>brown, cylindric, glab.</i>
<i>Petiole</i>	<i>red, short, glab., furrowed above.</i>
<i>Leaves</i>	<i>alternate, orbicular and elliptic.</i>
— <i>Margin</i>	<i>remotely incurved-serrulate.</i>
— <i>Serratures</i>	<i>acute.</i>
— <i>Sinus</i>	<i>sub 0, obtuse.</i>
— <i>Sides</i>	<i>(exterior) subrotund, (interior) sub 0.</i>
— <i>Vertices</i>	<i>acute, indurated.</i>
— <i>Base</i>	<i>rotund.</i>
— <i>Apex</i>	<i>broad-acuminate.</i>
— <i>Surface</i>	<i>deep green, shining.</i>
— <i>Subface</i>	<i>glab. covered with pale dots.</i>
— <i>Axis</i>	<i>prominent.</i>
— <i>Branches</i>	<i>(first) prominent, rebranching and anastomosing with the veins.</i>
<i>Cyme</i>	<i>sessile.</i>
<i>Peduncles & } Pedicels</i>	<i>herbaceous, glab.</i>
<i>Bracteas</i>	<i>minute, brown, acute.</i>
<i>Calyx</i>	<i>glab. long, 5-fid. grooved from the sinuses.</i>
— <i>Segments</i>	<i>= tube of corol, acute, intire.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>glab. short, 5-parted.</i>
— <i>Segments</i>	<i>obtuse-angular, intire.</i>
<i>Stamens</i>	<i>5, sub = corol, inserted in and embodied with it below the sinuses.</i>
— <i>Filaments</i>	<i>long, tapering.</i>
— <i>Anthers</i>	<i>subrotund, medifixt.</i>
— <i>Lobes</i>	<i>adhering.</i>
<i>Pistil.</i>	
— <i>Ovary</i>	<i>subconic.</i>
— <i>Style</i>	<i>0.</i>
— <i>Stigmas</i>	<i>3-lobed (3-rounded projections).</i>
<i>Floration</i>	<i>21st June, 1821.</i>
<i>Place</i>	<i>T. Canham's, Esq. Twickenham.</i>
<i>Country</i>	<i>New England to Carolina.</i>

1



VIBURNUM SQUAMATUM. (W. E.)

Scaly Viburnum.

<i>Leaves</i>	<i>oblong, obtuse, serrulate.</i>
<i>Petiole & Peduncle</i> }	<i>squamose-pubescent. (W. E.)</i>
<i>Shrub</i>	6-8 F.
<i>Branches</i>	cylindric, pale-brown, glab.
<i>Petiole</i>	short, scaly, hollow above from decurrence of the leaf.
<i>Leaves</i>	opposite, elliptic.
— <i>Margin</i>	crenate-subdentate,
— <i>Dents</i>	obtuse.
— <i>Sinus</i>	"
— <i>Vertices</i>	naked.
— <i>Base</i>	ovate.
— <i>Apex</i>	obtuse-acuminate.
— <i>Surface</i>	glab. with scaly axis.
— <i>Subface</i>	farinose-scaly.
— <i>Axis</i>	prominent, scaly.
— <i>Branches & Veins</i> }	sunk in the parenchyma.
<i>Cyme</i>	terminal, pedunculated.
<i>Peduncles & Pedicels</i> }	green, covered with minute ferruginous scales.
<i>Bracteas</i>	irregular, membranous, sheathing the base of florets.
<i>Calyx</i>	long.
— <i>Tube</i>	= $\frac{1}{2}$ length of corol.
— <i>Segments</i>	short, acute.
— <i>Sinus</i>	obtuse.
<i>Corol</i>	1-petaled, 5-fid.
— <i>Tube</i>	short.
— <i>Segments</i>	acute-angular, intire, revolute.
— <i>Sinus</i>	acute-angular.
<i>Stamens</i>	twice as long as corol, inserted at its base and not adnate to it upwards.
— <i>Filaments</i>	slender, filiform.
— <i>Anthers</i>	oblong, transversed.
<i>Pistil</i>	
— <i>Ovary</i>	filling the calyx and semiadhering.
— <i>Style</i>	short (sub 0).
— <i>Stigma</i>	simple, scarcely apparent.
<i>Floration</i>	21st June, 1821.
<i>Place</i>	T. Canham's, Esq. Twickenham.
<i>Country</i>	Pennsylvania.

VIBURNUM DENTATUM. (W.)

Toothed-leaved Viburnum. (Arrow wood.)

<i>Plant</i>	<i>subglab.</i>
<i>Leaves</i>	<i>suborbicular and ovate, acute, dentate-serrate, plicate-sulcate.</i>
— <i>Faces</i>	<i>glab.</i>
<i>Cyme</i>	<i>pedunculate.</i>
<i>Fruit</i>	<i>subglobular. (Ph.)</i>
<i>Shrub</i>	4-5 F.
<i>Branches</i>	cylindric, brown.
<i>Petiole</i>	short, = $\frac{1}{2}$ length of leaf, grooved above.
<i>Leaves</i>	opposite, suborbicular.
— <i>Margin</i>	largely dentate.
— <i>Dents</i>	acute.
— <i>Simus</i>	obtuse.
— <i>Sides</i>	rather excurved.
— <i>Vertices</i>	callous.
— <i>Base</i>	subcordate.
— <i>Apex</i>	obtuse-angular.
— <i>Surface</i>	shining, with solitary hairs.
— <i>Subface</i>	glab.
— <i>Nerves</i>	very prominent and solitarily long-haired.
— <i>Branches</i>	2-furcate.
— <i>As</i>	hair-tufted.
<i>Cyme</i>	compound.
<i>Peduncles & } Pedicels }</i>	strewed with solitary white hairs and brown atoms.
<i>Calyx</i>	fleshy, cylindric, 5-dentate, strewed with brown minute scales.
— <i>Dents</i>	acute.
— <i>Margin</i>	gland-ciliate.
— <i>Simus</i>	obtuse.
<i>Corol</i>	5-fid.
— <i>Segments</i>	obtuse, subintire.
<i>Stamens</i>	5, longer than corol, and inserted at its base.
— <i>Filaments</i>	glab. rather tapering.
— <i>Anthers</i>	subhastate, medifixt.
— <i>Lobes</i>	oblong, grooved, adnate.
<i>Pistil</i>	shorter than corol.
— <i>Ovary</i>	hid in the calyx.
— <i>Style</i>	short, hairy at base.
— <i>Stigma</i>	3, small, subexcurved.
<i>Floration</i>	21st June, 1822.
<i>Place</i>	Mr. James Lee's, Hammersmith.
<i>Country</i>	New York to Carolina.



BERBERRIS SINENSIS. (H. P.)

Chinese Barberry.

Leaves	<i>lanceolate-obovate, submucronate, more or less dentate.</i>
Raceme	<i>axillary, suberect.</i> (Dh. Nov.)
Shrub	bushy.
Stem & Branches }	glab. brown, lirate-sulcate.
Spines	$\frac{1}{2}$ inch flat, tapering, keeled.
Petiole	short, the decurrence of the base of leaf.
Leaves	in alternate bundles, obovate, spatulate.
— Margin	intire.
— Base	long-spatulate.
— Apex	obtuse.
— Faces	glab. reticulate-veined.
— Axis	prominent, glab.
— Branches	fainter.
Inflorescence	a simple axillary and terminal raceme.
Peduncles & } — Pedicels }	green, glab.
Bracteas	one at base of pedicels, semilanceolate, acute, and two at base of flowers.
Calyx	6-sepaled.
— Sepals	colored, glab. intire, dilated.
Corol	6-petaled.
— Petals	subrhomboid, emarginate, glab. intire, each with 2 oblong nectaries at base.
Stamens	6, shorter than petals and = pistil, inserted at base of ovary.
— Filaments	flat.
— Anthers	2, adnate to apex of filaments.
— Lobes	oblong, grooved.
Pistil	
— Ovary	cylindric, glab.
— Style	0.
— Stigma	glab. broader than the ovary.
— Margin	recurved.
— Centre	a quadrangular excavation.
Floration	21st June, 1821, at T. Canham's, Esq. Twickenham.
Country	China.



PRINOS GLABER. (W.)

Evergreen Winter Berry. (Ink Berry.)

<i>licels</i> . . .	<i>axillary, subsolitary, and generally 3-flowered.</i>
<i>ries</i> . . .	<i>black.</i>
<i>ves</i> . . .	<i>perennial cuneate-lanceolate, coriaceous, glab. shining, upper part subdentate. (Ph.)</i>
<i>ub</i> . . .	<i>small, upright.</i>
<i>m</i> . . .	<i>with green bark.</i>
<i>Branches</i> . .	<i>covered with very short hairs.</i>
<i>iole</i> . . .	<i>short, set with short gland-hairs.</i>
<i>ives</i> . . .	<i>alternate, coriaceous, thick, lanceolate.</i>
<i>Margin</i> . . .	<i>subserrate at end.</i>
<i>— Serratures</i> .	<i>1-2 each side.</i>
<i>— Vertices</i> .	<i>obtuse.</i>
<i>Base</i> . . .	<i>attenuated.</i>
<i>Apex</i> . . .	<i>obtuse-angular.</i>
<i>Surface</i> . .	<i>glab. shining.</i>
<i>Subface</i> . .	<i>(parenchyma) glab. and closely set with flat atoms.</i>
<i>Axis</i> . . .	<i>obtuse.</i>
<i>— Branches</i> .	<i>0.</i>
<i>orescence.</i>	
<i>wers</i> . . .	<i>axillary, solitary or in 3-4 flowered umbels or corymbs.</i>
<i>luncles</i> . . .	<i>$\frac{1}{4}$ inch, covered with very short hairs.</i>
<i>Pedicels</i> . .	<i>glab.</i>
<i>cteas</i> . . .	<i>several on the pedicels, very small, acute.</i>
<i>yx</i> . . .	<i>glab. 6-fid.</i>
<i>Segments</i> . .	<i>obtuse-angular, intire.</i>
<i>— Sinus</i> . . .	<i>acute.</i>
<i>rol</i> . . .	<i>1-petaled, 6-fid.</i>
<i>Segments</i> . .	<i>obtuse.</i>
<i>— Margin</i> . .	<i>short, lacerate, reflected.</i>
<i>mens</i> . . .	<i>6, rather shorter than corol, inserted just below sinuses of corol.</i>
<i>Filaments</i> . .	<i>flat.</i>
<i>stil.</i>	
<i>Ovary</i> . . .	<i>globular, free.</i>
<i>Style</i> . . .	<i>0.</i>
<i>Stigma</i> . . .	<i>very short.</i>
<i>ration</i> . . .	<i>28th July, 1821.</i>
<i>ice</i> . . .	<i>Mr. ——— Knight's, King's Road, Chelsea.</i>
<i>untry</i> . . .	<i>Canada to Florida.</i>



W. J. GILBERT, JR.





PRINOS AMBIGUUS. (W.)

Deciduous Winter-Berry.

<i>Leaves</i>	☉, oval.
— <i>Apices</i>	acuminate.
— <i>Margin</i>	mucronate-serrulate.
— <i>Faces</i>	pubescent.
<i>Flowers</i>	4-5-fid.
— ♂	congested at top of branchlets.
— ♀	solitary. (Ph.)
<i>Shrub</i>	low, erect.
<i>Branches</i>	brown, glab.
<i>Petiole</i>	short, grooved, tomentose above.
<i>Leaves</i>	sparsed in bundles towards the ends of shoots, alternate, subovate.
— <i>Margin</i>	subimbricate-serrate.
— <i>Serratures</i>	acute.
— <i>Sinus</i>	"
— <i>Sides</i>	(exterior) excurved, (interior) short.
— <i>Vertices</i>	brown, short mucrones.
— <i>Base</i>	attenuate.
— <i>Apex</i>	acuminate, mucronate.
— <i>Surface</i>	glab. few-haired near the base.
— <i>Subface</i>	(parenchyma) glab.
— <i>Axis &</i>	} prominent, pubescent at sides.
— <i>Branches</i>	
<i>Umbels</i>	2-3-flowered, axillary and terminal, sparsed along the branches.
— <i>Involucres</i>	only denticulations at base of umbellule.
<i>Calyx</i>	glab. 5-fid.
— <i>Segments</i>	acute-angular, sublaciniated and ciliated with red hairs.
— <i>Sinus</i>	obtuse.
<i>Corol</i>	6-parted, glab.
— <i>Segments</i>	concave, obtuse, intire.
<i>Stamens</i>	6, rather shorter than corol, inserted at its base
— <i>Filaments</i>	glab. rather tapering, flattish.
— <i>Anthers</i>	basifixt, oblong.
— <i>Base</i>	cordate.
— <i>Lobes</i>	adnate, furrowed.
<i>Pistil</i>	
— <i>Ovary</i>	glab. conic.
— <i>Style</i>	0.
— <i>Stigma</i>	0 (or a shallow lobation of apex of ovary).
<i>Floration</i>	16th July, 1821.
<i>Place</i>	Mr. James Lee's, Hammersmith.
<i>Country</i>	Canada to Virginia.





PRINOS VERTICILLATUS. ♂ (Mich. Fl.)

Carolina Winter-Berry.

<i>Fascicles</i> . . .	♂ flowers axillary, umbelluliform.
" . . .	♀ flowers aggregate, generally 6-parted.
<i>Flowers</i> . . .	small, white.
<i>Berries</i> . . .	red or crimson.
<i>Leaves</i> . . .	☉, oval, serrate, acuminate.
— <i>Surface</i> . .	pubescent. (Ph.)
<i>Shrub</i> . . .	2-3 F.
<i>Branches</i> . .	glab. dark brown.
<i>Petiole</i> . . .	short, hunched, pubescent.
<i>Leaves</i> . . .	towards ends of shoots, alternate, lanceolate.
— <i>Margin</i> . . .	remotely subserrulate.
— <i>Serrulations</i>	tip with little, indurated, obtuse points.
— <i>Base</i> . . .	attenuated.
— <i>Apex</i> . . .	" , acute-angular, mucronate.
— <i>Surface</i> . .	glab.
— <i>Subface</i> . .	pubescent.
— <i>Nervation</i> .	strewed with white, divaricated, fleshy hairs.
<i>Umbel</i> . . .	4-6-flowered, simple, pedicelled, sparsed on the shoots below the leaves.
<i>Peduncles & } — Rays</i> }	green, glab.
<i>Calyx</i> . . .	5-fid, lower part agglutinated to the corol.
— <i>Segments</i> . .	4-fid, acute.
— <i>Sinus</i> . . .	obtuse-angular.
<i>Corol</i> . . .	glab. 3-4-parted.
— <i>Segments</i> . .	elliptic, concave, intire.
<i>Stamens</i> . . .	3-4 (not 6) = segments of corol, inserted at base of flower.
— <i>Filaments</i> . .	glab. sublinear.
— <i>Anthers</i> . .	" basifixt, subrotund.
— <i>Lobes</i> . . .	oblong, adnate, furrowed.
<i>Pistil</i>	
— <i>Ovary</i> . . .	0 (or a glab. rudiment in some flowers).
<i>Floration</i> . . .	16th July, 1821.
<i>Place</i> . . .	Mr. James Lee's, Hammersmith.
<i>Country</i> . . .	New Jersey to Carolina.





OXYCOCCOS ERECTUS. (Ph.)

Upright Cranberry.

<i>Plant</i>	<i>erect.</i>
<i>Leaves</i>	<i>oval, acuminate, serrulate and ciliate.</i>
<i>Pedicels</i>	<i>axillary.</i>
<i>Corol</i>	<i>long, at last revolute. (Ph.)</i>
<i>Shrub</i>	<i>small, erect.</i>
<i>Stem & — Branches</i> }	<i>rather zig-zag, green, covered with short, horizontal hairs.</i>
<i>Petiole</i>	<i>sub 0, pubescent.</i>
<i>Leaves</i>	<i>alternate, subsessile, cordate-lanceolate.</i>
— <i>Margin</i>	<i>serrate.</i>
— <i>Serratures.</i>	<i>acute.</i>
— <i>Sinus</i>	<i>obtuse.</i>
— <i>Sides</i>	<i>(exterior) excurved, (interior) short.</i>
— <i>Vertices</i>	<i>tipt with very long bristles.</i>
— <i>Base</i>	<i>cordate.</i>
— <i>Apex</i>	<i>acuminate.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>„ , shining, reticulate-venose.</i>
— <i>Axis</i>	<i>subciliate.</i>
<i>Inflorescence.</i>	
— <i>Flowers</i>	<i>axillary, solitary.</i>
<i>Pedicels</i>	<i>very slender, rose-coloured, pendulous, = length of flower.</i>
<i>Calyx</i>	<i>green, glab. short, 5-dentate.</i>
— <i>Dents.</i>	
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>long, slender, red when closed, tapering to an obtuse apex.</i>
— <i>Dents</i>	<i>closing the mouth.</i>
<i>Stamens</i>	<i>8, inserted below the divisions of the calyx.</i>
— <i>Filaments</i>	<i>short, flat, pubescent.</i>
— <i>Anthers</i>	<i>orange-color, straight, 2-horned.</i>
— <i>Horns</i>	<i>= length of anthers.</i>
<i>Pistil.</i>	
— <i>Ovary</i>	<i>hid in the calyx.</i>
— <i>Style</i>	<i>long, cylindric, = stamens.</i>
— <i>Stigma</i>	<i>scarcely apparent.</i>
<i>Berry</i>	<i>(acrosarc) black, orbicular, subin=, crowned by the remaining short dents of calyx.</i>
— <i>Umbilic</i>	<i>glab. red.</i>
— <i>Seeds</i>	<i>many, brown.</i>
<i>Floration</i>	<i>4th June, 1821.</i>
<i>Place</i>	<i>Mr. James Lee's, Hammersmith.</i>
<i>Country</i>	<i>High mountains of Virginia and Carolina.</i>



A. Hart. Del.

Publ. by J. E. A. & A. Cornhill, April 11, 1833.

Walden. Del.

VACCINIUM DUMOSUM. V. HUMILE.

Dwarf Bushy Whortle Berry.

<i>Branchlets</i> } <i>Leaves & Racemes</i> } . . . <i>Leaves</i> . . . — <i>Base</i> . . . <i>Racemes</i> . . . <i>Pedicels</i> . . . <i>Corol</i> . . . — <i>Segments</i> . . . <i>Anthers</i> . . .	<i>rather hispid and strewed with resinous atoms.</i> <i>obovate-oblong, intire, mucronate, concolor.</i> <i>acute.</i> <i>bracteate.</i> <i>short, axillar, subsolitary, bibracteate in the middle.</i> <i>campanulate.</i> <i>rotundate.</i> <i>included. (Ph.)</i>
<i>Shrub</i> . . . <i>Branches</i> . . .	<i>very low, 6 inches.</i> <i>brown, tomentose.</i>
<i>Leaves</i> . . . — <i>Margin</i> . . . — <i>Base</i> . . . — <i>Apex</i> . . . — <i>Faces</i> . . . — <i>Subface</i> . . . — <i>Axis</i> . . . — <i>Branches</i> . . .	<i>alternate, sessile, coriaceous, orbicular or elliptic.</i> <i>intire, ciliate with gland-tipt hairs.</i> <i>obtuse.</i> <i>"</i> <i>covered with yellow, short, fleshy hairs.</i> <i>paler.</i> <i>pubescent.</i> <i>fainter.</i>
<i>Inflorescence.</i> — <i>Flowers</i> . . . <i>Pedicels</i> . . .	<i>solitary along the branchlets, close in the axillas of the leaves.</i> <i>sparsed with brown gland-scales.</i>
<i>Bracteas</i> . . .	<i>2 in the middle of pedicels, sparsed with scaly particles.</i>
<i>Calyx</i> . . . — <i>Segments</i> . . . — <i>Margin</i> . . . — <i>Sinus</i> . . . <i>Corol</i> . . . <i>Stamens</i> . . . — <i>Filaments</i> . . . — <i>Anthers</i> . . . — <i>Horns</i> . . . <i>Disk</i> . . . <i>Pistil</i> . . . — <i>Ovary</i> . . .	<i>covered with brown scales, 5-fid.</i> <i>acute-angular.</i> <i>subciliate.</i> <i>acute-angular.</i> <i>1-petaled, urceolate, sub 5-gonous, 5-dentate.</i> <i>10, shorter than corol and inserted at its base.</i> <i>flat, short, with pubescent margins.</i> <i>medifixt to face of filaments, yellow brown, 2-horned.</i> <i>= body, erect.</i> <i>round, closing mouth of calyx.</i> <i>longer than stamens.</i> <i>hid under the disk.</i>

— Style . . .	arising from centre of disk, glab. tapering.
— Stigma . . .	simple, merely the uneven top of style.
Floration . . .	22d May, 1822.
Place . . .	Messrs. Whitley and Co's., Fulham.
Country . . .	New Jersey to Florida.
Dissection . . .	f. 1. calyx and pistil. —2. corol. —3. anther, front view. —4. „ , side „



J. Hart. Del.

Dis by J. E. D. Archib. & H. M. G. 21853

W. & A. G. S.

VACCINIUM VIRGATUM. (W.)

Twiggy Whortle-Berry.

<i>Branches</i> . . .	<i>floriferous, elongated, subaphyllous.</i>
<i>Leaves</i> . . .	<i>lanceolate-oblong, acute, serrulate, glab.</i>
— <i>Apices</i> . . .	<i>acute.</i>
<i>Racemes</i> . . .	<i>sessile, corymbose, bracteate.</i>
<i>Corol</i> . . .	<i>cylindric.</i>
— <i>Mouth</i> . . .	<i>narrowed.</i>
— <i>Segments</i> . . .	<i>very short.</i>
<i>Calyx</i> . . .	<i>reflected.</i>
<i>Style</i> . . .	<i>included. (Ph.)</i>
<i>Shrub</i> . . .	<i>erect, 2-2½ F.</i>
<i>Stem &</i> — <i>Branches</i> }	<i>cylindric, olive-color with yellow speckles.</i>
<i>Petiole</i> . . .	<i>very short (sub 0) pubescent.</i>
<i>Leaves</i> . . .	<i>alternate, elliptic.</i>
— <i>Margin</i> . . .	<i>gland-serrulate.</i>
— <i>Serrulations</i>	<i>subincumbent</i>
— <i>Sinus</i> . . .	<i>acute.</i>
— <i>Sides</i> . . .	<i>(exterior) excurved.</i>
— <i>Vertices</i> . . .	<i>tipt with pediceled glands.</i>
— <i>Base</i> . . .	<i>angular.</i>
— <i>Apex</i> . . .	<i>" , mucronate.</i>
— <i>Surface</i> . . .	<i>glab. (the axis only pubescent).</i>
— <i>Subface</i> . . .	<i>solitarily gland-hispid.</i>
— <i>Axis</i> . . .	<i>prominent, pubescent.</i>
— <i>Branches</i> . . .	<i>pubescent at origin, obsolete.</i>
<i>Racemes</i> . . .	<i>1-sided, numerous, alternating on the upper naked part of stem and branches.</i>
<i>Peduncles</i> . . .	<i>green, sericeous, directed horizontally.</i>
— <i>Pedicels</i> . . .	<i>" " , fixed on one side of the axis, pendulous, = length of flower.</i>
<i>Bracteas</i> . . .	<i>3 at base of each pedicel, reddish, lanceolate.</i>
— <i>Margin</i> . . .	<i>intire, ciliate.</i>
<i>Calyx</i> . . .	<i>subglab. campanulate, 5-fid.</i>
— <i>Segments</i> . . .	<i>intire, acute-angular.</i>
— <i>Sinus</i> . . .	<i>acute.</i>
<i>Corol</i> . . .	<i>1-petaled, cylindric-conic, very shortly 5-dentate, strongly 5-costate.</i>
— <i>Dents</i> . . .	<i>acute.</i>
<i>Stamens</i> . . .	<i>10, inserted at base of corol.</i>

— Filaments . . .	flat, with ciliate sides.
— Anthers . . .	longer than filaments, '2-horned, subbasifixt, glab. and adnate to their faces, 2-lobed.
— Lobes . . .	terminated by 2 continuous horns.
Pistil.	
— Ovary . . .	hid in the calyx.
— Style . . .	= corol, rather tapering, glab.
— Stigma . . .	small, simple, subcapitate.
Floration . . .	1st June, 1822.
Place . . .	Mr. James Lee's, Hammersmith.
Country . . .	Virginia & Carolina.
Dissection . . .	f. 1. anther, front view.



Ellis & Sol.

Publ. by J. & S. Smith, Cornhill, May 1. 1822.

W. J. Smith.

VACCINEUM VIRGATUM. V. ANGUSTIFOLIUM.*Narrow-leaved twiggy Whortle-Berry.*

Shrub	diffuse, spreading, 2-3 F.
Stem	cylindric, glab. spangled with white atoms.
Branches	rather naked upwards.
Leaves	alternate, sessile, long-lanceolate.
— Margin	remotely subserrulate.
— Serrulations	tip with minute stiped glands.
— Base	acute.
— Apex	"
— Surface	glab. only the axis set with close white hairs.
— Subface	(parenchyma) glab. strewed with brown, minute, pediceled-glands.
— Nerves	gland-haired.
— Axis	prominent.
— Branches & } — Veins	obsolete.
Racemes	alternating on the terminal axis, close, simple,
— Pedicels	(not very long) glab.
Bracteas	2 on middle of each pedicel, lanceolate, acute, intire,
Calyx	glab. 5-fid.
— Segments	lanceolate, acute, intire.
— Sinus	acute.
Corol	oblong-conic, coarctate, sub 5-gonous, shortly 5-dentate.
Stamens	8-10, shorter than corol and inserted at its base,
— Filaments	flat, white-haired.
— Anthers	yellow-brown, = filaments, fixed to upper part of the face, muticate.
Disk	circular.
Pistil	
— Ovary	hid in the calyx.
— Style	glab. tapering.
— Stigma	subcruciform.
Berry	(acrosarc) black, orbicular, crowned with the 5 lanceolate, persisting segments of the calyx, juicy.
— Umbilic	warty, closed.
— Seeds	(nutlets) several, brown.
Floration	27th May, 1822.
Place	Messrs. Whitley and Co's., Fulham.
Country	North America.
Dissection	f. 1. calyx and pistil. —2. corolla. —3. front view of the anthers. —4. side. " " —5. fruit.

MEMORANDUM FOR THE RECORD
SUBJECT: [Illegible]

[Illegible text]	[Illegible text]
[Illegible text]	[Illegible text]
[Illegible text]	[Illegible text]
[Illegible text]	[Illegible text]
[Illegible text]	[Illegible text]
[Illegible text]	[Illegible text]
[Illegible text]	[Illegible text]

1



5.

Willd. Del.



1.



2.



3.



4.

Willd. Del. Arch. Gerb. III. May. 1772.

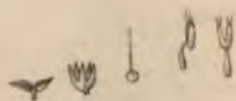
Fig. 1.

VACCINEUM TENELLUM. (W.)

Pennsylvanian Whortle-Berry.

<i>Branches</i> . . .	<i>green, angular.</i>
<i>Leaves</i> . . .	<i>sessile, ovate-lanceolate, mucronate, serrulate.</i>
— <i>Faces</i> . . .	<i>lucid.</i>
<i>Fascicles</i> . . .	<i>crowded-flowered, subterminal, sessile.</i>
<i>Corol</i> . . .	<i>ovate. (Ph.)</i>
<i>Shrub</i> . . .	<i>upright, 1½–2 F.</i>
<i>Bark</i> . . .	<i>glab. olive-brown, warty.</i>
<i>Branches</i> . . .	<i>white-haired in patches.</i>
<i>Leaves</i> . . .	<i>alternate, sessile, narrow-lanceolate,</i>
— <i>Margin</i> . . .	<i>obscurely-serrulate.</i>
— <i>Serratures</i> . . .	<i>subimbricate.</i>
— <i>Sides</i> . . .	<i>(exterior) excurved.</i>
— <i>Vertices</i> . . .	<i>rather hooked and pedicel-glanded.</i>
— <i>Base</i> . . .	<i>attenuated.</i>
— <i>Apex</i> . . .	<i>acute-angular, mucronate.</i>
— <i>Faces</i> . . .	<i>shining, glab.</i>
— <i>Axis</i> . . .	<i>prominent „</i>
— <i>Branches</i> . . .	<i>reticulating with the veins.</i>
<i>Racemes</i> . . .	<i>terminal.</i>
<i>Peduncles & }</i>	<i>glab.</i>
— <i>Pedicels</i> }	
<i>Bracteas</i> . . .	<i>ovate-lanceolate, intire, sitting on the middle of pedicels.</i>
<i>Calyx</i> . . .	<i>glab. short, 5-fid.</i>
— <i>Segments</i> . . .	<i>spreading, acute-angular.</i>
— <i>Margin</i> . . .	<i>intire.</i>
<i>Corol</i> . . .	<i>1-petaled, short, suburceolate, dentate.</i>
— <i>Dents</i> . . .	<i>short, reflected,</i>
<i>Stamens</i> . . .	<i>10, shorter than corol and inserted at its base.</i>
— <i>Filaments</i> . . .	<i>short, flat, pubescent.</i>
— <i>Anthers</i> . . .	<i>medifixt, with cordate base and 2-horned apex.</i>
<i>Disk</i> . . .	<i>circular, flat, scolloped, closing mouth of calyx,</i>
	<i>with radiating depressions above.</i>
<i>Pistil</i> . . .	<i>= corol.</i>
— <i>Ovary</i> . . .	<i>hid in calyx.</i>
— <i>Style</i> . . .	<i>arising from the disk, glab. rather tapering.</i>
— <i>Stigmas</i> . . .	<i>simple, small.</i>
<i>Berry</i> . . .	<i>(an acrosarc).</i>
<i>Floration</i> . . .	<i>20th May, 1822.</i>
<i>Place</i> . . .	<i>Mr. James Lee's, Hammersmith.</i>
<i>Country</i> . . .	<i>New England to Virginia. Mountains of Pennsylvania.</i>
<i>Dissection</i> . . .	<i>f. 1. calyx and pistil.</i>
	<i>—2. corolla.</i>
	<i>—3. front view of an anther.</i>
	<i>—4. side „ „</i>
	<i>—5. berries. „ „</i>





Edm. B. De.

Tab. 14. Arch. Embell. No. 1122

W. 22. 2

ANDROMEDA SPICATA. (P. W. W.)

Branching Andromeda.

<i>Spikes</i>	<i>terminal, 1-sided, elongate, simple or branched.</i>
<i>Bracteas</i>	<i>linear, acute.</i>
<i>Calyx</i>	<i>acute.</i>
— <i>Base</i>	<i>2-bracteate.</i>
<i>Corol</i>	<i>cylindric.</i>
<i>Anther</i>	<i>(apex) geminate, 4-aristate.</i>
<i>Leaves</i>	<i>membranous, oval-lanceolate, serrulate, acute.</i>
— <i>Faces</i>	<i>glab. (Ph. sub And. rac.)</i>
<i>Shrub</i>	<i>small, upright.</i>
<i>Stem</i>	<i>olive-color, glab. shining.</i>
— <i>Branches</i>	<i>„ (shoots) short, white-haired.</i>
<i>Leaves</i>	<i>alternate, elliptic-lanceolate.</i>
— <i>Margin</i>	<i>serrulate,</i>
— <i>Serrulations</i>	<i>acute.</i>
— <i>Sinus</i>	<i>obtuse.</i>
— <i>Sides</i>	<i>(exterior) subcurvilinear, (interior) sub 0.</i>
— <i>Vertices</i>	<i>glandular.</i>
— <i>Base</i>	<i>attenuated or ovate.</i>
— <i>Apex</i>	<i>acute.</i>
— <i>Surface</i>	<i>glab. shining.</i>
— <i>Subface</i>	<i>(parenchyma) glab. reticulate-venous.</i>
— <i>Axis &</i>	<i>prominent, strewed with brown atoms.</i>
— <i>Branches</i>	
<i>Inflorescence</i>	<i>a spike.</i>
<i>Peduncles</i>	<i>glab.</i>
<i>Pedicels</i>	<i>„ , short, = calyx, shorter than flower.</i>
<i>Bracteas</i>	<i>2 at base of each flower, tapering, acute, glab.</i>
— <i>Margin</i>	<i>scariose.</i>
<i>Calyx</i>	<i>glab. 5-parted.</i>
— <i>Segments</i>	<i>long, attenuated, acute.</i>
<i>Corol</i>	<i>long, urceolate, 5-dentate.</i>
— <i>Dents</i>	<i>revolute.</i>
<i>Stamens</i>	<i>10, inserted at base of corol.</i>
— <i>Filaments</i>	<i>long, flat.</i>
— <i>Anthers</i>	<i>long, 2-fid.</i>
— <i>Segments</i>	<i>2-aristate (or terminated by a fork).</i>
<i>Pistil</i>	
— <i>Ovary</i>	<i>globular.</i>
— <i>Style</i>	<i>rather shorter than corol, slender, linear.</i>
— <i>Stigma</i>	<i>simple, 3-puckered, broader than style,</i>
<i>Floration</i>	<i>9th June, 1821.</i>
<i>Place</i>	<i>Mr. Knight's, King's Road, Chelsea.</i>
<i>Country</i>	<i>Canada to Florida.</i>

1

.

.

.

.

.

.

.

.

.

.

.

.

2

3


$$E D_{\text{in}} / m \approx 10^{-10} \text{ eV}.$$

Filed by Jack A. Bell on 11 May 1962.

W. J. ...

LYONIA PANICULATA. (W. SUB. AND.)

Panicled Andromeda.

<i>Plant</i>	<i>pubescent.</i>
<i>Branches</i>	<i>floriferous, terminal, paniculate, rather naked.</i>
<i>Glomerules</i>	<i>pedunculate.</i>
<i>Corol</i>	<i>subglobose, pubescent!</i>
<i>Anthers</i>	<i>obtuse, naked.</i>
<i>Leaves</i>	<i>obovate-lanceolate, acute, subintire. (Ph. sub. And.)</i>
<i>Shrub</i>	<i>small, upright.</i>
<i>Branches</i>	<i>glab. brown.</i>
<i>Bark</i>	<i>irregularly and longitudinally divided.</i>
<i>Petiole</i>	<i>hunched, very short, glab.</i>
<i>Leaves</i>	<i>alternate, elliptic, lanceolate.</i>
— <i>Margin</i>	<i>scabrous, scarcely denticulate.</i>
— <i>Base</i>	<i>ovate or acute-angular.</i>
— <i>Apex</i>	<i>acute-angular.</i>
— <i>Tip</i>	<i>callous.</i>
— <i>Surface</i>	<i>covered with short, gland-like hairs.</i>
— <i>Subface</i>	
— <i>Axis &</i>	
— <i>Branches</i>	
<i>Inflorescence</i>	<i>a simple raceme, about 12-flowered.</i>
<i>Peduncles</i>	<i>green, sericeous.</i>
<i>Calyx</i>	<i>covered with short, soft, gland-like hairs, 5-dentate.</i>
— <i>Dents</i>	<i>short, acuminate.</i>
— <i>Sides</i>	<i>bowform.</i>
— <i>Sinus</i>	<i>acute-angular.</i>
<i>Corol</i>	<i>a compressed globe, sericeous.</i>
— <i>Mouth</i>	<i>nearly closed.</i>
— <i>Dents</i>	<i>5, short, reflected, acute-angular.</i>
<i>Stamens</i>	<i>10, approaching the pistil, shorter than the corol and inserted round the ovary.</i>
— <i>Filaments</i>	<i>crooked, hairy.</i>
— <i>Anthers</i>	<i>oblong, basifixt.</i>
— <i>Lobes</i>	<i>connate, divided at top, naked!</i>
<i>Pistil</i>	<i>longer than stamens.</i>
— <i>Ovary</i>	<i>globular, furrowed, sericeous above.</i>
— <i>Style</i>	<i>= length of ovary, subconic, truncate.</i>
<i>Floration</i>	<i>13th July, 1821.</i>
<i>Place</i>	<i>Mr. Knight's, King's Road, Chelsea.</i>
<i>Country</i>	<i>Canada to Carolina.</i>
<i>Dissection</i>	<i>f. 1. anther.</i>
	<i>—2. „ , shewing its 2 cells.</i>

STANDARDIZATION OF THE

Standardization of the

Name of the person	Date of birth	Place of birth
John Doe	1900	New York
Jane Doe	1905	New York
John Doe	1910	New York
Jane Doe	1915	New York
John Doe	1920	New York
Jane Doe	1925	New York
John Doe	1930	New York
Jane Doe	1935	New York
John Doe	1940	New York
Jane Doe	1945	New York
John Doe	1950	New York
Jane Doe	1955	New York



J. Mart. Del.

Robby, J. & A. Smith, Greenhill, May 11, 1874

LYONIA SALICIFOLIA.

Willow-leaved Andromeda.

<i>Raceme</i> . . .	<i>compound.</i>
<i>Anthers</i> . . .	<i>muticate (naked).</i>
<i>Leaves</i> . . .	<i>lanceolate.</i>
— <i>Margin</i> . . .	<i>subserulate.</i>
— <i>Faces & Axis</i> }	<i>subgland-haired, shining. (P.W.W.)</i>
<i>Shrub</i> . . .	<i>upright, 3-4 F.</i>
<i>Branches</i> . . .	<i>rigid, glab. purple-brown.</i>
<i>Petiole</i> . . .	<i>very short, strewed with brown atoms.</i>
<i>Leaves</i> . . .	<i>alternate, long-lanceolate.</i>
— <i>Margin</i> . . .	<i>scarcely serrulate, (only a few inequalities).</i>
— <i>Base</i> . . .	<i>narrowed, ovate.</i>
— <i>Apex</i> . . .	<i>acuminate.</i>
— <i>Surface & Subface</i> }	<i>shining, strewed with a few short, gland-like hairs.</i>
— <i>Axis</i> . . .	<i>prominent, gland-haired.</i>
— <i>Branches</i> . . .	<i>vanishing and reticulating with the veins.</i>
<i>Racemes</i> . . .	<i>compound, 1 inch, alternately sessile on the terminal branches.</i>
<i>Poduncles</i> . . .	<i>pubescent.</i>
<i>Pedicels</i> . . .	<i>subglab. short, sub = corol.</i>
<i>Calyx</i> . . .	<i>very short, 5-dentate.</i>
— <i>Dents</i> . . .	<i>in =, acute.</i>
<i>Corol</i> . . .	<i>1-petaled, globular, subsericeous, contracted at the mouth, 5-6-dentate.</i>
— <i>Dents</i> . . .	<i>very short, acute, reflected.</i>
<i>Stamens</i> . . .	<i>10, a little shorter than corol, inserted round the ovary.</i>
— <i>Filaments</i> . . .	<i>sericeous, flat, crooked, applied to the ovary.</i>
— <i>Anthers</i> . . .	<i>ovate, medifixed, united, obliquely truncate at top, showing the 2 cells.</i>
— <i>Aristas</i> . . .	<i>none but a forked white rudiment on the back of anthers.</i>
<i>Pistil</i> . . .	<i>shorter than the corol.</i>
— <i>Ovary</i> . . .	<i>subsericeous, globular, puckered.</i>
— <i>Style</i> . . .	<i>short, thick, cylindric, rather narrower at base.</i>
<i>Floration</i> . . .	<i>22d June, 1822.</i>
<i>Place</i> . . .	<i>Arboretum, Kew.</i>

Country . . .	North America.
Observation.	A beautiful species and closely allied to <i>paniculata</i> , but its lanceolate, shining, less pubescent leaves and other particulars sufficiently distinguish it.
Dissection . . .	f. 1. calyx and pistil. —2. corol. —3. anther and filament. —4. „ shewing its cells.

1

—

▲



CLETHRA TOMENTOSA. (Lam. Enc.)

Woolly-leaved Clethra.

<i>Raceme</i>	<i>spicate, simple, bracteate, villous-tomentose.</i>
<i>Leaves</i>	<i>cuneate-obovate, acute, finely serrate above.</i>
— <i>Surface</i>	<i>white-tomentose. (Ph.)</i>
<i>Shrub</i>	upright, small.
<i>Branches</i>	dark brown, glab.
<i>Petiole</i>	shortish.
<i>Leaves</i>	4-inch. alternate, obovate-lanceolate, broad.
— <i>Margin</i>	subequally and sharply dentate.
— <i>Dents</i>	obtuse-angular.
— <i>Sinus</i>	acute-angular.
— <i>Sides</i>	(exterior) bowform, (interior) excurved.
— <i>Vertices</i>	long-pointed.
— <i>Base</i>	tapered.
— <i>Apex</i>	acute.
— <i>Surface</i>	rough to touch, strewed with small, white stars!
— <i>Subface</i>	paler, densely pubescent.
<i>Inflorescence.</i>	
— <i>Spike</i>	long, terminal.
<i>Peduncle</i>	sericeous.
— <i>Pedicel</i>	„ shorter than flower.
<i>Bractea</i>	at base of each pedicel, long, narrow, lanceolate, sericeous.
— <i>Margin</i>	(particularly towards the apex) set with in=bristles.
— <i>Apex</i>	long, acute.
<i>Calyx</i>	sericeous, 5-fid.
— <i>Segments</i>	lanceolate.
— <i>Margin</i>	intire, ciliate.
— <i>Sinus</i>	acute.
<i>Corol</i>	longer than calyx, 5-petaled.
— <i>Petals</i>	elliptic, intire.
<i>Stamens</i>	10, = corol, inserted at claws of petals.
— <i>Filaments</i>	compressed, tapering.
— <i>Anthers</i>	sagittate, medifixt.
— <i>Lobes</i>	grooved.
<i>Pistil.</i>	
— <i>Ovary</i>	orbicular, sericeous.
— <i>Style</i>	cylindric, thick.
— <i>Stigmas</i>	3, cylindric, obtuse.
<i>Floration</i>	17th Sept. 1821.
<i>Place</i>	Arboretum, Kew.
<i>Country</i>	Swamps of Virginia and Carolina.

5 (cont. from 1), ASYMMETRIC ARIETAL

Pl. 40.



J. H. B. D. C.

Pub. by J. & A. Arch. Cornhill. May 11. 1825.

W. G. L.

STYRAX GLABRUM. (Cavanilles Dis.)

Smooth Storax.

<i>Leaves</i>	<i>oval-lanceolate.</i>
— <i>Apices</i>	<i>acute.</i>
— <i>Faces</i>	<i>glab.</i>
<i>Peduncles</i>	<i>axillary, 1-flowered, solitary or binate.</i>
<i>Stamens</i>	6-10. (Ph.)
<i>Shrub</i>	erect, 5 F.
<i>Branches</i>	glab.
— <i>Shoots</i>	green, covered with black warts.
<i>Petiole</i>	very short, spangled with solitary yellow atoms.
<i>Leaves</i>	alternate, elliptic-lanced and obovate.
— <i>Margin</i>	subdenticulate.
— <i>Denticles.</i>	
— <i>Sinus</i>	rather incurved.
— <i>Vertices</i>	subindurated.
— <i>Base</i>	attenuated.
— <i>Apex</i>	broad-acuminate.
— <i>Faces</i>	glab.
— <i>Axis</i>	” prominent.
— <i>Branches</i>	obliterated.
<i>Inflorescence</i>	solitary, axillary.
<i>Pedicels</i>	= flower, thickening upwards into the calyx.
<i>Calyx</i>	glab. laciniate-denticulate.
— <i>Segments</i>	in =, scarious, pubescent.
<i>Corol</i>	sericeous, 1-petaled, shortly tubular.
— <i>Segments</i>	linear-oblong, emarginate.
— <i>Sides</i>	intire.
<i>Stamens</i>	sub=corol, 1-delphous, inserted at the base of tube of corol.
— <i>Filaments</i>	sericeous at base and tube of union.
— <i>Anthers</i>	oblong, acute, adnate to inside of upper part of filaments.
— <i>Lobes</i>	membranous, separated at base and united at apex.
<i>Pistil</i>	rather longer than stamens.
— <i>Ovary</i>	sericeous, adhering.
— <i>Style</i>	somewhat longer than stamens and corol, glab.
— <i>Stigma</i>	simple, very small.
<i>Floration</i>	17th July, 1821.
<i>Place</i>	Arboretum, Kew.
<i>Country</i>	Swamps of Virginia and Carolina.
<i>Observation.</i>	Mr. Pursh has very properly placed <i>Styrax</i> in <i>Monodelphia Polyandria</i> .



Pl. 41.



J. H. & C.

Pub. by J. H. & C. New York. Nov. 1852.

Vol. 1.

STYRAX PULVERULENTUM. (Mich. Fl.)

Powdery Storax.

<i>ives</i>	<i>sessile, oval or obovate, obtuse.</i>
<i>Subface</i> . . .	<i>pulverulent-tomentose.</i>
<i>wers</i>	<i>axillary & sub-3-nate, very shortly pediceled. (Ph.)</i>
<i>ub</i>	<i>erect, 4-5 F.</i>
<i>nches</i>	<i>glab. brown.</i>
<i>iole</i>	<i>short, pubescent above.</i>
<i>ives</i>	<i>alternate, obovate.</i>
<i>Margin</i>	<i>obsoletely dentate, subciliate.</i>
— <i>Dents</i> . . .	<i>small.</i>
— <i>Vertices</i> . .	<i>mucronate.</i>
<i>Base</i>	<i>obtuse-angular.</i>
<i>Apex</i>	<i>” . .</i>
<i>Surface</i> . . .	<i>glab.</i>
<i>Subface</i> . . .	<i>(when much magnified) subvillous, strewed with white, 3-5 rayed stars!</i>
<i>Nerves</i>	<i>laterally villous.</i>
<i>Axis</i>	<i>prominent.</i>
— <i>Branches</i> . .	<i>alternate, with reticulate terminations.</i>
<i>wers</i>	<i>axillary, solitary, cernuous.</i>
<i>licels</i>	<i>$\frac{1}{2}$ inch, sericeous.</i>
<i>yx</i>	<i>sericeous, inequally incised-dentate.</i>
<i>Segments</i> . . .	<i>glandular at apices.</i>
<i>rol</i>	<i>1-petaled, 6-fid.</i>
<i>Tube</i>	<i>short.</i>
<i>Segments</i> . . .	<i>long, lanceolate, intire.</i>
<i>mens</i>	<i>12, = corol, villous, united half way in a tube and inserted at base of corol.</i>
<i>Filaments</i> . . .	<i>short.</i>
<i>thers</i>	<i>= filaments, narrow.</i>
— <i>Lobes</i>	<i>adnate their whole length to filament, oblong-linear.</i>
<i>til</i>	
<i>Ovary</i>	<i>globular, sericeous, free.</i>
<i>Style</i>	<i>glab.</i>
<i>Stigma</i>	<i>simple, small.</i>
<i>ration</i>	<i>21st June, 1821.</i>
<i>ace</i>	<i>T. Canham's, Esq., Twickenham.</i>
<i>untry</i>	<i>Woods of Virginia and Carolina.</i>

THE SOUTH AFRICAN RAILWAYS





E.D. Smith. Del.

Paddy, J. & S. Arch. Cornhill. June. 3. 1823.

W. & A. G. & Co.

HYDRANGEA CORDATA. (Mich. Fl.)

Heart-leaved Hydrangea.

<i>Cyme</i>	<i>subradiate.</i>
<i>Leaves</i>	<i>broad-ovate, acuminate, largely dentate.</i>
— <i>Base</i>	<i>subcordate.</i>
— <i>Surface</i> . . .	<i>glab. (Ph.)</i>
<i>Shrub</i>	<i>low, upright.</i>
<i>Stem</i>	<i>cylindric, glab.</i>
<i>Petiole</i>	<i>1 inch, = $\frac{1}{2}$ length of leaf, glab. grooved above.</i>
<i>Leaves</i>	<i>opposite, petiolate, subcordate-ovate.</i>
— <i>Margin</i>	<i>inequally dentate.</i>
— <i>Dents</i>	<i>obtuse-angled.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Vertices</i> . . .	<i>incrassated.</i>
— <i>Base</i>	<i>slightly cordate.</i>
— <i>Apex</i>	<i>acuminate.</i>
— <i>Surface</i> . . .	<i>glab.</i>
— <i>Subface</i> . . .	<i>„ , paler.</i>
— <i>Axis & Branches</i> }	<i>prominent, with solitary white hairs.</i>
<i>Corymb</i>	<i>compound.</i>
<i>Peduncles & Pedicels</i> }	<i>yellow-green, sericeous.</i>
<i>Bracteas</i>	<i>long, narrow, acute at both ends.</i>
<i>Calyx</i>	<i>glab. 10-ribbed, 5-dentate.</i>
— <i>Dents</i>	<i>small, acute.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>concave, broad at base, acute, longer than calyx.</i>
<i>Stamens</i>	<i>10, longer than petals, inserted at base of ovary.</i>
— <i>Filaments</i> . . .	<i>subulate.</i>
— <i>Anthers</i>	<i>broadier than long, basifixt.</i>
— <i>Lobes</i>	<i>laterally grooved.</i>
<i>Pistil.</i>	
— <i>Ovary</i>	<i>filling the calyx.</i>
— <i>Styles</i>	<i>2, very thick, conic.</i>
— <i>Stigma</i>	<i>0 apparent.</i>
<i>Floration</i>	<i>10th Sept. 1821.</i>
<i>Place</i>	<i>Messrs. Whitley and Co's., Fulham.</i>
<i>Country</i>	<i>Mountains of Carolina.</i>



E. D. Smith. Del.

Labby J. & A. Arch. Lond. Ill. Juss. 123.

HYDRANGEA NIVEA. (Mich. Fl.)

White-leaved Hydrangea.

<i>Cyme</i>	<i>radiate.</i>
<i>Leaves</i>	<i>ovate, acuminate, dentate.</i>
— <i>Dents</i>	<i>mucronate.</i>
— <i>Subface</i> . . .	<i>snowy-tomentose. (Ph.)</i>
<i>Shrub</i>	<i>low.</i>
<i>Branches</i> . . .	<i>obsoletely sulcate, sparsed with short, white hairs.</i>
<i>Petiole</i>	<i>= ½ length of leaf, sulcate and pubescent above.</i>
<i>Leaves</i>	<i>opposite, elliptic.</i>
— <i>Margin</i>	<i>serrate.</i>
— <i>Serratures</i> . .	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>"</i>
— <i>Sides</i>	<i>(both) excurved.</i>
— <i>Vertices</i> . . .	<i>thickish, fleshy.</i>
— <i>Base</i>	<i>slightly cordate, roundish.</i>
— <i>Apex</i>	<i>acuminate.</i>
— <i>Surface</i>	<i>(nerves) with solitary, white hairs.</i>
— <i>Subface</i> . . .	<i>covered with a dense, snow-white cotton.</i>
— <i>Axis &</i> . . . }	<i>prominent, cottony.</i>
— <i>Branches</i> }	
<i>Corymb</i>	<i>compound with abortive floscules in the ray.</i>
<i>Peduncles &</i> }	<i>pubescent.</i>
— <i>Pedicels</i> }	
<i>Bracteas</i>	<i>0, (unless the small leaves on the corymb.)</i>
<i>Floscule</i>	<i>(abortive) of the ray.</i>
— <i>Perigone</i> . . .	<i>4-sepaled.</i>
— <i>Sepal.</i>	<i>orbicular, intire.</i>
— <i>Claw</i>	<i>short.</i>
— <i>Beads</i>	<i>4, united in the centre.</i>
<i>Calyx</i>	<i>campanulate, few-haired, 5-dentate.</i>
— <i>Dents</i>	<i>acute.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>concave, orbicular, intire.</i>
<i>Stamens</i>	<i>10, short, inserted on a membrane at mouth of calyx.</i>
— <i>Filaments</i> . . .	<i>filiform.</i>
— <i>Anthers</i>	<i>basifixt, orbicular.</i>
— <i>Lobes</i>	<i>1-sulcate.</i>
<i>Pistil.</i>	
— <i>Ovary</i>	<i>subrotund, adhering.</i>
— <i>Style</i>	<i>thick, short.</i>
— <i>Stigma</i>	<i>2-lobed.</i>
<i>Floration</i>	<i>6th Aug. 1821.</i>
<i>Place</i>	<i>Arboretum, Kew.</i>
<i>Country</i>	<i>On the Head-Waters of the Savannah River, in Tennessee, &c.</i>

TABLE 1	
SUMMARY OF THE RESULTS OF THE SURVEY	
1. General Information	
Name of the Survey	...
Date of the Survey	...
Location of the Survey	...
Number of Respondents	...
Age Range of Respondents	...
Gender of Respondents	...
Education Level of Respondents	...
Occupation of Respondents	...
Religion of Respondents	...
Marital Status of Respondents	...
Income Level of Respondents	...
Health Status of Respondents	...
Other Information	...
2. Results of the Survey	
Findings	...
Conclusions	...
Recommendations	...
Summary	...





ARISTOTELIA MACQUL (Herit.)

Shining-leaved Aristotelia.

Flowers	racemose.
Leaves	ovate, serrate. (P.)
Shrub	upright.
Stem & Branches }	purplish, covered with very short hairs.
Petiole	= $\frac{1}{2}$ length of leaf, red, pubescent.
Leaves	alternate, coriaceous, ovate-oblong.
— Margin	serrate.
— Serratures	obtuse-angular.
— Sinus	acute.
— Sides	(exterior) rectilinear, (interior) sub 0.
— Vertices	black-tipt.
— Surface	shining (a few hairs on the nerves).
— Subface	glab. reticulate-veined.
— Axis	prominent, subpubescent.
— Branches	fainter.
Inflorescence	racemose.
Pedicels	pubescent, with short, white, horizontal hairs.
Calyx	5-parted.
— Segments	acute-angular, = corol, red, covered with horizontal white hairs.
Corol	5-petaled.
— Petals	cuneate, truncate, intire.
stamens	15, 3 opposite each segment of calyx, inserted round the ovary.
Filaments	0.
Anthers	emarginate, small.
stil. . . .	
Ovary	glab. free.
Style	short.
Stigmas	2, long, thin, twisted.
ation	9th June, 1821.
. . . .	Mr. Knight's, King's Road, Chelsea.
try	Chili.





EUPHORBIA SPINOSA. (L.)

Spinous Spurge.

<i>bel</i>	<i>simple, sub 5-fid.</i>
<i>olucres</i>	<i>ovate.</i>
"	<i>(general), 3-phyllous.</i>
<i>Foliolae</i>	<i>oblong, very intire, glab. (P.)</i>
<i>shrub</i>	<i>small, 1-1½ F. delicate.</i>
<i>inches</i>	<i>pale-purplish-green, glab.</i>
<i>ives</i>	<i>opposite, sessile, oblong-linear.</i>
<i>Margin</i>	<i>intire.</i>
<i>Base</i>	<i>attenuated.</i>
<i>Apex</i>	<i>obtuse, mucronate.</i>
<i>Faces</i>	<i>glab. strewed with glaucous atoms.</i>
<i>Axis</i>	<i>obsolete.</i>
<i>— Branches</i>	<i>0.</i>
<i>orescence.</i>	
<i>Umbel</i>	<i>simple, terminal, 4-rayed.</i>
<i>— Rays</i>	<i>long, slender, glab.</i>
<i>olucres</i>	<i>(general) 4-phyllous, glab.</i>
"	<i>(partial) 2 " , obovate, intire, closely strewed with glaucous atoms.</i>
<i>yx</i>	<i>fungous, 5-fid, ventricose.</i>
<i>Segments</i>	<i>transversely oblong, glab. concave below, convex above, bending over the anthers.</i>
<i>— Sinus</i>	<i>obtuse.</i>
<i>rol</i>	<i>5-petaled (scaled).</i>
<i>Petals</i>	<i>1 in each sinus of the calyx, very short, transversely oblong.</i>
<i>— Limb</i>	<i>curved over the anthers.</i>
<i>— Claw</i>	<i>decurrent on interior of calyx.</i>
<i>mens</i>	<i>16, in =, yellow.</i>
<i>Filaments</i>	<i>tapering, slender, inserted round the ovary.</i>
<i>Anthers</i>	<i>2-lobed, yellow.</i>
<i>— Lobes</i>	<i>round, flat, furrowed.</i>
<i>til.</i>	
<i>Ovary</i>	<i>subrotund, pedicelate, thickly set with style-like bodies.</i>
<i>Style</i>	<i>3-fid.</i>
<i>Stigmas</i>	<i>2, oblong, obtuse.</i>
<i>ration</i>	<i>21st June, 1821.</i>
<i>ice</i>	<i>T. Canham's, Esq. Twickenham.</i>
<i>untry</i>	<i>Italy. Crete. Mountains of Provence.</i>
<i>Observation.</i>	<i>This plant is not spinous as the name indicates, but it may be so in its native soil and situation.</i>

<p> 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 15</p>
--



PHILADELPHUS GRANDIFLORUS. (W. E.)*Large-flowered Syringa.*

Leaves	<i>ovate, acuminate, dentate.</i>
Surface (Le) . .	<i>fasciculate-pilose. (W. E.)</i>
Barb	6-8 F.
Stem	pale-brown, glab.
Branches	opposite.
Petiole	short, pubescent.
Leaves	opposite, elliptic.
— Margin	obscurely scalloped-dentate.
— Dents	with callous tips.
— Base	ovate.
— Apex	acuminate.
— Surface	glab.
— Subface	pubescent.
— Axis &	prominent, pubescent.
— Branches }	
Inflorescence . .	1-flowered, axillary.
Pedicels	pubescent, = calyx.
Calyx	pubescent, 4-fid.
— Segments	acute.
— Sinus	obtuse-angular.
— Vertices	callous.
Corol	4-petaled.
— Petals	glab. elliptic, intire, subemarginate.
Stamens	numerous, shorter than corol, peridiscal.
— Filaments	setaceous.
— Anthers	basifixed, truncate at bottom and obtuse at top.
Disk	fleshy orbicular, closing mouth of calyx.
Pistil	arising from the disk.
— Style	glab. columnar.
— Stigmas	4, = $\frac{1}{2}$ length of style with dilated apices!!
Floration	9th July, 1821.
Place	Messrs. Whitley and Co's., Fulham.
Country	North America.
Dissection	f. 1. calyx, disk, style, and stigma.



2.

Stylus & Stigma.



1.



3.

Stamen & Anther.

PHILADELPHUS HIRSUTUS.

Hirsute Syringa.

. . . .	<i>oblong-ovate, acute, sharply and angularly denticulate.</i>
ice	<i>hirsute.</i>
ice	<i>whitish, hirsute-villous.</i>
ets	<i>about 3-flowered.</i>
?	<i>bracteate near the summit. (Nuttall.)</i>
. . . .	<i>slender, upright, virgate.</i>
s	<i>long, straight, virgate, glab. purple-brown.</i>
chlets . .	<i>opposite.</i>
. . . .	<i>short, hairy, grooved.</i>
. . . .	<i>opposite, ovate-lanceolate.</i>
in	<i>remotely scalloped-dentate.</i>
nts	<i>short.</i>
Sinus . . .	<i>obtuse.</i>
Sides . . .	<i>(exterior) straight, (interior) short at right \angles with axis.</i>
Vertices .	<i>long, obtuse, callous.</i>
. . . .	<i>ovate, intire.</i>
. . . .	<i>acute-angular.</i>
ce	<i>bullate, solitary-haired.</i>
ce	<i>tomentose.</i>
es	<i>3 from base, prominent, directed to apex.</i>
anches . .	<i>prominent.</i>
. . . .	<i>solitary, axillary.</i>
. . . .	<i>very short, $\frac{1}{2}$ length of calyx, covered with long, white hairs.</i>
. . . .	<i>2 at base of each flower, = tube of calyx, hairy.</i>
. . . .	<i>covered with long, adpressed, white hairs, inside and outside.</i>
ents . . .	<i>acute-angular.</i>
us	<i>"</i>
. . . .	<i>4-petaled.</i>
s	<i>in =, orbicular, subintire or waved.</i>
tw	<i>sub 0.</i>
. . . .	<i>many, = pistil, shorter than petals, peridiscal in alveoles.</i>
ments . .	<i>glab. tapering upwards.</i>
ers . . .	<i>yellow, basifixt.</i>
bes . . .	<i>didymous, deeply furrowed each side, on an elliptic connector of the same substance as the filament.</i>

Disk	flat, circular, closing mouth of calyx, white.
— Edge	alveolous, receiving bases of stamens.
Pistil.	
— Ovary	hid under the disk.
— Style	short, cylindric.
— Stigma	glab. = length of style, simple, clavate, obtuse-4-angled!!
Section	cruciform!
Floration	1st June, 1899.
Place	Mr. James Lee's, Hammersmith.
Country	Rocky banks of French Broad River, Tennessee, near the warm springs.
Dissection	f. 1. calyx, disk, and style. —2. stamen and anther, shewing the separation of its lobes by a connector. —3. The style and fixation of stigma cut across to shew its angles.



PRUNUS SEROTINA. (W.)

American Bird Cherry.

<i>Flowers</i>	<i>racemose.</i>
<i>Raceme</i>	<i>lax.</i>
<i>Leaves</i>	○, <i>simply serrate.</i>
— <i>Serratures</i> . .	(<i>lower</i>) <i>subglandular.</i>
— <i>Surface</i>	<i>axis barbate towards the base. (Ph.)</i>
<i>Tree</i>	18-20.
<i>Stem</i>	2 F. diameter 4-inch.
— <i>Bark</i>	rather crackt.
<i>Branches & }</i> . .	glab. rather purplish-brown, warty.
— <i>Bark</i> }	
<i>Shoots</i>	purplish-brown, glab. strewed with white warts.
<i>Leaves</i>	alternate, oblong-lanceolate.
— <i>Margin</i>	minutely, incumbently, inequally serrate.
— <i>Serratures</i> . .	hooked inwards.
— <i>Sinus</i>	acute.
— <i>Sides</i>	(<i>exterior</i>) bowform, (<i>interior</i>) sub 0.
— <i>Vertices</i> . . .	brown, short, sharpish.
— <i>Base</i>	rather tapered.
— <i>Apex</i>	shortly acuminate.
— <i>Surface</i>	dark green, smooth, glab.
— <i>Subface</i>	paler
— <i>Axis</i>	prominent with a row of red hairs each side from the base to $\frac{1}{2}$ its length!!
<i>Raceme</i>	simple, erect, $3\frac{1}{2}$ inch.
<i>Peduncles</i>	glab. reddish.
— <i>Pedicels</i>	= flowers, glab. reddish.
<i>Calyx</i>	glab. 5-dentate.
— <i>Dents</i>	short, obtuse, with a few pediceled glands.
— <i>Sinus</i>	obtuse.
<i>Corol</i>	5-petaled.
— <i>Petals</i>	suborbicular, inequally crenate.
— <i>Claw</i>	short.
<i>Stamens</i>	numerous, = petals, inserted in mouth of calyx.
— <i>Filaments</i> . . .	glab. slender, subulate.
— <i>Anthers</i>	„ medifixt.
— <i>Lobes</i>	oblong, adnate, grooved.
<i>Pistil</i>	rather shorter than stamens.
— <i>Ovary</i>	ovate, glab. free.
— <i>Style</i>	cylindric, thick.
— <i>Stigma</i>	simple, flat, with irregular and projecting margin.
<i>Drupe</i>	spheric, or subturbinat glab. punctured, = a pea.
— <i>Nut</i>	glab. with opposite sutures, subcompressed.
— <i>Kernel</i>	white, filling the nut.

Floration . . .	25th May, 1822. (Fruit, October.)
Place . . .	Arboretum, Kew.
Country . . .	Pennsylvania to Carolina.
Dissection . . .	f. 1. a drupe. —2. part of the flesh cut away to shew the nut. —3. longitudinal section of the nut and kernel. —4. kernel.



PYRUS SINAI. (Dh. nov.)

Mount Sinai Pear.

<i>Leaves</i>	<i>ovate-oblong, very intire.</i>
— <i>Subface</i> . . .	<i>subtomentose.</i>
<i>Peduncle</i>	<i>simple, tomentose, corymbose. (Dh. nov.)</i>
<i>Tree</i>	<i>middling size, 20-25 F.</i>
<i>Branches</i>	<i>dark-purple-brown, glab.</i>
<i>Petiole</i>	<i>= $\frac{1}{4}$ length of leaf, pubescent, sulcate above.</i>
<i>Leaves</i>	<i>coriaceous, alternate, lanceolate and oblanceolate, or elliptic.</i>
— <i>Margin</i>	<i>intire.</i>
— <i>Base</i>	<i>attenuated.</i>
— <i>Apex</i>	<i>obtuse-angular.</i>
— <i>Surface</i>	<i>rather tomentose.</i>
— <i>Subface</i>	<i>densely „ .</i>
— <i>Axis</i>	<i>prominent, „ .</i>
— <i>Branches</i> . . .	<i>obsolete.</i>
<i>Pome</i>	<i>turbinate, 5-celled, crowned by the calyx.</i>
— <i>Cells</i>	
— <i>Partitions</i> . .	<i>thin, membranous.</i>
— <i>Endocarp</i> . . .	<i>subosseous.</i>
— <i>Pippin</i>	<i>1 in each cell.</i>
— <i>Testa</i>	<i>cartilaginous.</i>
<i>Floration</i>	<i>May. (Fruit, 17th Aug. 1821.)</i>
<i>Place</i>	<i>Lord Mansfield's, Kenwood, Hampstead.</i>
<i>Country</i>	<i>Mount Sinai.</i>
<i>Observation.</i>	<i>The drawing was made in August, 1821. I am sorry I was not able to procure the flowers.</i>





M^{rs} Treco & Del.

Pub. by J. & A. Arch. Cornhill July 1842.

Widdell, sc.

PYRUS SPECTABILIS. (W.)

Chinese Apple.

Leaves	oval-oblong, serrate, smooth.
Umbels	sessile.
Petals (Claws)	longer than calyx.
Style (Base)	lanate (W.)
Tree	30 F. branching nearly from the root.
— Trunk	very short.
— Branches	brown, glab. warted and cicatrised, pendant.
Petiole	1½-inch (⅓ = leaf) lirata-striate, grooved above, pubescent.
Leaves	alternate, elliptic-lanceolate.
— Margin	subequally adpressed-serrate (imbricate-serrate).
— Serratures	acute.
— Sinus	„
— Sides	(exterior) subrectilinear, (interior) sub 0.
— Vertices	incrassated.
— Base	tapered.
— Apex	acute.
— Surface	dark green, shining, glab.
— Subface	(parenchyma) paler, „
— Axis	prominent, tomentose.
— Branches	tomentose, anastomosing.
Subumbel	2-3-flowered, sessile.
Peduncles	thickened upwards, 1½ inch, glab.
Calyx	red, glab. 5-fid.
— Segments	lanceolate, acute.
— Margin	ciliate.
Corol	pink-colored, 5-petaled.
— Petals	oval, crenate at apex.
— Claw	short.
Stamens	numerous, shorter than petals, inserted on mouth of calyx.
— Filaments	glab. slender, filiform.
— Anthers	oblong, medifixed.
— Lobes	adnate whole length, furrowed at sides.
Pistils	
— Ovaries	hid in the calyx.
— Styles	6, filiform, rather thicker upwards, pubescent below, and united in a tube.
— Stigmas	simple, with fungous clubbed apices.
Pome	irregular, deformed, subelliptic, 5-celled, glab. red-cheeked.

— Cells . . .	5, cartilaginous, 3 of which 1-pippined and 2 abortive.
— Pippins . . .	cartilaginous.
Floration . . .	May. (Fruit, 24th Sept. 1821.)
Place	Arboretum, Kew.
Country . . .	China.
Dissection . . .	f. 1. longitudinal section of pome. —2. transverse „ , with its 5 cells.





W. D. D. D.

Botany J. H. A. Smith, Greenhill July 11829.

W. D. D. D.

PYRUS BACCATA. (W.)

Small-fruited or Cherry Crab.

<i>leaves</i>	<i>equally serrate.</i>
<i>huncles</i>	<i>conferted.</i>
<i>lyxes</i>	<i>deciduous.</i>
<i>ne</i>	<i>berried. (W.)</i>
<i>æ</i>	20-30 F.
<i>m</i>	2 F. diameter 9 inches, with crackt, foliaceous bark.
Branches . .	glab. olive-brown, warty, pendant.
<i>iole</i>	long, sub = leaf, grooved above, set with sparsed, solitary, white hairs.
<i>ives</i>	in pairs on the spurs or alternate, elliptic.
Margin . . .	subequally adpresst-serrate.
— Serratures .	obtuse and acute-angled.
— Sinus . . .	acute.
— Sides . . .	(exterior) excurved, (interior) sub 0.
— Vertices . .	naked.
Base	inequally ovate (one side lower).
Apex	acute.
Surface . . .	dark green, glab.
Subface . . .	paler „ , with minute, pale spots.
Axis & } — Branches }	prominent, glab.
<i>lorescence</i> . .	axillary, 1-2 flowered.
<i>dicels</i>	$\frac{1}{4}$ -1 inch.
<i>lyx</i>	cylindric, tomentose.
Segments . . .	5, lanceolate, acute, tomentose.
— Sinus . . .	subobtuse.
<i>rol</i>	5-petaled.
Petals	white, elliptic, intire.
<i>mens</i>	numerous, inserted in tube of calyx.
Filaments . .	awled, covered with solitary, white, horizontal hairs.
Anthers . . .	glab. medifixt.
— Lobes . . .	oblong, adnate, grooved.
<i>stils.</i>	
Ovaries . . .	hid in the calyx.
Styles	5, filiform, rather thicker upwards.
Stigmas . . .	small, simple, fungous (puckered).
<i>me</i>	umbilicated at both ends, spheric, glab. yellow, red-cheeked.
Apex	closed and naked (the calyx soon falling off).

— Cells . . .	5, verticillate round the axis, membranous-cartilaginous.
— Pippins . . .	1-3 in each cell, ovate, plane-convex.
— Episperm .	brown, cartilaginous.
Floration . . .	May. (Fruit, 17th Sept. 1821.)
Place	Arboretum, Kew,
Country . . .	Siberia.
Dissection . .	f. 1. calyx and stamens. —2. expanded flowers with stamens. —3. transverse section of pome. —4. longitudinal „ .



Thart. 34.

Painted by J. R. A. Smith, for the Bot. Garden, 1841.

PYRUS EDULIS. (W. E.)

Eatable Sorb.

rs	corymbose.
s	oblong, inequally 2-serrate.
ise	cuneate.
bface . . .	tomentose. (W. E.)
. . . .	small, 10-12 F.
ches	brown, glab. warty.
e	= $\frac{1}{3}$ length of leaf.
s	opposite, orbicular-cuneate, incised-serrate at apex.
ction . . .	$\frac{1}{3}$.
Sides . . .	subrectilinear.
obes	obtuse, serrate.
Serratures .	" -angular.
— Sinus . . .	sub " .
— Sides . . .	excurved.
— Vertices .	naked.
ise	cuneate, intire.
ex	subtruncate.
rface . . .	dark green, glab. nitid.
bface . . .	snowy-tomentose.
erves . . .	prominent.
escence . .	corymbose.
ncles & } dicels }	tomentose.
cas	on the peduncles and pedicels long, linear, brown.
. . . .	woolly, 5-fid.
gments . . .	acute.
Sinus	obtuse.
. . . .	5-petaled.
stals	rotund, crenate at apex, glab.
ens	19, = petals, inserted in the calyx under a membrane covering the orifice.
laments . .	long, taper.
nthers . . .	medifixt, transverse.
Lobes . . .	oblong, furrowed.
s.	
varies . . .	hid under the membrane closing the calyx.
yles	2, = stamens.
igmas . . .	small, yellow.

Pome	subglobular, rather striate, 2-celled.
— Cells	1 fertile and 1 abortive.
Floration	4th June, 1821.
Place	Messrs. Whitley and Co's., Fulham.
Country	France.
Dissection	f. 1. Transverse section of pome with its 2 cells, one of which is abortive.



Hook. & G.

Pub. by J. E. & A. Arch. Cornhill. July. 1842.

W. & A. G. & Co.

PYRUS SORBIFOLIA. (Bosc.)

Sorb-leaved Pear.

<i>Plant</i>	<i>unarmed.</i>
<i>Leaves</i>	<i>pinnate or pinnatifid, subinequally serrate, glab.!</i>
— <i>Lobe</i>	<i>(terminal) large, sub 3-fid.</i>
<i>Flowers</i>	<i>corymbose. (Encyclopédie.)</i>
<i>Shrub</i>	<i>6-8 F. spreading, bushy.</i>
<i>Branches</i>	<i>dark purple-brown, glab.</i>
<i>Petiole</i>	<i>(common) glab. subsericeous above.</i>
<i>Leaves</i>	<i>alternate, 4 inches, pinnatifid-impar-pinnate.</i>
— <i>Leaflets</i>	<i>(of two lower pair) sessile, oblong (of next 1 or 2 pair) confluent, all incised-serrate.</i>
— <i>Impair</i>	<i>much longer, confluent with next pair, incised-serrate.</i>
— <i>Sinus</i>	<i>variously shallow and deep.</i>
— <i>Margin</i>	<i>obtusely serrate.</i>
— <i>Serratures.</i>	
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Vertices</i>	<i>obtuse.</i>
— <i>Base</i>	<i>narrow-ovate.</i>
— <i>Apex</i>	<i>obtuse, (of impair) acuminate.</i>
— <i>Surface</i>	<i>dark green, glab.</i>
— <i>Subface</i>	<i>paler and „ !!</i>
— <i>Axis</i>	<i>prominent „</i>
— <i>Branches</i>	<i>obsolete.</i>
<i>Corymb</i>	<i>many-flowered.</i>
<i>Peduncles & } Pedicels</i>	<i>glab.</i>
<i>Calyx</i>	<i>glab. 5-dentate.</i>
— <i>Dents</i>	<i>angular.</i>
— <i>Margin</i>	<i>glandular.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>orbicular, subcrenate.</i>
— <i>Claw</i>	<i>short.</i>
<i>Stamens</i>	<i>numerous, = petals, inserted in the calyx.</i>
— <i>Filaments</i>	<i>awled.</i>
— <i>Anthers</i>	<i>medifixed, oblong.</i>
<i>Pistils</i>	<i>5, issuing from a tuft of hairs, filiform, shorter than stamens.</i>
— <i>Ovary</i>	<i>hid in the calyx.</i>
— <i>Stigma</i>	<i>simple, puckered.</i>

Pome	elliptic, subtruncate above, black-purple, glab. closed by segments of calyx.
— Sarcocarp . .	juicy, reddish.
— Cells	5, verticillate round the centre.
— Pippin	oblong, rather pointed, brown.
Floration	May. (Fruit, 8th Sept. 1821.)
Place	Mr. James Lee's, Hammersmith.
Country	?
Dissection	f. 1. transverse section of pome. — 2. longitudinal " — 3. pippin (cartilaginous seed).



Thort. 2 R.

Publ. by J. R. A. Arch. Cornhill, July 22, 1827

Wells & Co.

PYRUS AMERICANA. (W. E.)***Purple-berried Sorb.***

<i>Leaves</i>	<i>pinnate.</i>
<i>Leaflets</i>	<i>acute, subequally serrate, glab.</i>
<i>Petiole</i>	<i>(common) glab. (W. E.)</i>
<i>Tree</i>	10 F. upright.
— <i>Branches</i> . . .	pale-brown, glab.
<i>Petiole</i>	(common) 11 inch, lirate-sulcate, glab. grooved above.
”	(proper) sub 0.
<i>Leaves</i>	alternate, impair-pinnate.
— <i>Leaflets</i> . . .	6½ pair, oblong.
— <i>Margin</i>	subequally serrate.
— <i>Serratures</i> . .	acute-angular.
— <i>Sinus</i>	”
— <i>Sides</i>	(exterior) subexcurved, (interior) short, incurved.
— <i>Vertices</i> . . .	acute, fleshy.
— <i>Base</i>	in =, lower side nearly joining the common petiole.
— <i>Apex</i>	acute-angular.
— <i>Surface</i>	dark green, glab.
— <i>Subface</i> . . .	paler, and ”
— <i>Axis</i>	prominent, ”
— <i>Branches</i> . .	fainter.
<i>Panicle</i>	terminal.
<i>Peduncle</i>	green, glab.
<i>Pedicel</i>	” , short, = flowers.
<i>Bracteas</i>	on the pedicels, small, very narrow, brown.
<i>Calyx</i>	short, campanulate, glab. 5-dentate.
— <i>Dents</i>	acute-angular.
— <i>Margin</i>	subgland-ciliate.
— <i>Sinus</i>	obtuse.
<i>Corol</i>	5-petaled.
— <i>Petals</i>	small, suborbicular.
— <i>Margin</i>	waved.
— <i>Claw</i>	short.
<i>Stamens</i>	numerous, rather longer than petals, inserted on the mouth of the calyx.
— <i>Filaments</i> . . .	in =, glab. slender, tapering.
— <i>Anthers</i>	medifixt, glab.
<i>Pistil</i>	shorter than stamens.

— Ovaries . . .	hid in the calyx.
— Styles . . .	3, pubescent $\frac{1}{2}$ way from base.
— Stigmas . . .	simple, small, projecting, fungous.
Pome	subcompressed-spheric, crowned by the calyx.
— Pippins . . .	in =, 4, round an imaginary axis.
Floration . . .	June. (Fruit, 10th Sept. 1821.)
Place	Messrs. Whitley and Co's, Fulham.
Country . . .	Canada.
Dissection . . .	f. 1. transverse section of pome. —2. pippin. —3. the bark of a branchlet.



MESPILUS ERIOCARPA. (D. C.)*Woolly-capsuled Mespilus.*

<i>Plant</i>	<i>unarmed.</i>
<i>Leaves</i>	<i>ovate, obtuse, very intire.</i>
— <i>Subface</i>	<i>tomentose.</i>
<i>Peduncle</i>	<i>3-5-flowered.</i>
<i>Germen</i>	<i>lanate.</i>
<i>Berry</i>	<i>5-seeded. (D. C.)</i>
<i>Shrub</i>	<i>low.</i>
— <i>Branches</i>	<i>dark-brown, glab. stiff.</i>
<i>Petiole</i>	<i>short, tomentose.</i>
<i>Leaves</i>	<i>alternate on the fruit bearing shoots, subrotund.</i>
— <i>Margin</i>	<i>intire.</i>
— <i>Base</i>	<i>rather narrower than apex.</i>
— <i>Apex</i>	<i>obtuse, mucronate.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>paler, tomentose.</i>
— <i>Axis</i>	<i>prominent, „ .</i>
— <i>Branches</i>	<i>vanishing, „ .</i>
<i>Inflorescence</i>	<i>corymbose.</i>
<i>Peduncles & } — Pedicels }</i>	<i>tomentose.</i>
<i>Bracteas</i>	$\frac{1}{2}$ <i>way on the pedicels, small, linear, acute.</i>
<i>Calyx</i>	<i>5-dentate, tomentose.</i>
— <i>Dents</i>	<i>acute.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>subrotund, crenate-undulate.</i>
— <i>Claw</i>	<i>short.</i>
<i>Stamens</i>	<i>10, inserted 2 at base of each dent of calyx.</i>
— <i>Filaments</i>	<i>flat, tapering, glab.</i>
— <i>Anthers</i>	<i>medifixt, subrotund.</i>
— <i>Lobes</i>	<i>adnate.</i>
<i>Pistil.</i>	
— <i>Ovaries</i>	<i>tomentose! hid in the calyx.</i>
— <i>Styles</i>	<i>3, emerging from a woolly base.</i>
— <i>Stigmas</i>	<i>scarcely apparent.</i>
<i>Drupoid</i>	<i>orbicular, tomentose, 5-celled, 4 of which abortive.</i>
<i>Floration</i>	<i>6th July, 1821.</i>
<i>Place</i>	<i>Messrs. C. Loddiges and Sons', Hackney.</i>
<i>Country</i>	<i>Eastern Countries.</i>
<i>Dissection</i>	<i>f. 1. drupoid, intire. —2. transverse section of the drupoid, one cell only of which is fertile.</i>



MESPILUS CRUS GALLI. (W.)

Cockspur Thorn.

<i>Plant</i>	<i>spinous.</i>
<i>Corymb</i>	<i>composite.</i>
<i>Flowers</i>	<i>digynous.</i>
<i>Sepals</i>	<i>lanceolate, subserrate.</i>
<i>Leaves</i>	<i>obovate-cuneate, sessile, nitid, coriaceous. (Ph.)</i>
<i>Shrub</i>	10-15 F.
<i>Stem</i>	brown, glab.
<i>Petiole</i>	short, margined by decurrence of leaf.
<i>Leaves</i>	alternate, obovate-cuneate.
— <i>Margin</i>	serrate $\frac{1}{2}$ way from apex.
— <i>Serratures</i>	obtuse-angular.
— <i>Sinus</i>	obtuse.
— <i>Sides</i>	excurved.
— <i>Vertices</i>	indurated.
— <i>Base</i>	cuneate, intire.
— <i>Apex</i>	obtuse.
— <i>Surface</i>	glab. shining.
— <i>Subface</i>	„, paler.
— <i>Axis</i>	prominent.
— <i>Branches</i>	sunk.
— <i>Veins</i>	reticulated.
<i>Corymb</i>	compound.
<i>Peduncles & Pedicels</i> }	herbaceous, glab.
<i>Calyx</i>	glab. 5-fid.
— <i>Segments</i>	long, lanceolate, acute, subintire.
— <i>Sinus</i>	obtuse.
<i>Corol</i>	5-petaled.
— <i>Petals</i>	orbicular, intire.
<i>Stamens</i>	8-9 on the edge of a membrane spreading and covering the mouth of calyx.
— <i>Filaments</i>	long, slender.
— <i>Anthers</i>	purple, large, oblong, transversed on top of filament.
— <i>Lobes</i>	united.
<i>Pistil</i>	
— <i>Ovaries</i>	hid in the calyx.
— <i>Styles</i>	2-3, long, shorter than stamens.
— <i>Stigmas</i>	small, flat.

Drupoid . . .	globular, 2-nutleted.
— Nutlet . . .	plane-convex, grooved outside, containing 1 kernel.
Floration . . .	18th June, 1821.
Place	Mr. Jenkins's Botanic Garden, New Road.
Country . . .	Canada to Carolina.
Dissection . . .	f. 1. drupoid, with part of the epicarp cut away to shew the situation of the nutlets. —2. transverse section of the drupoid, one nutlet abortive. —3. longitudinal section of nutlet —4. kernel.





MESPILUS PUNCTATA. (W.)

Spotted-fruited Mespilus.

<i>Plant</i>	<i>spinous and unarmed.</i>
<i>Calyx</i>	<i>villous.</i>
— <i>Segments</i>	<i>subulate, intire.</i>
<i>Berry</i>	<i>subglobose.</i>
— <i>Umbilic</i>	<i>depressed.</i>
<i>Leaves</i>	<i>obovate-cuneate, subplicate, glab. incised, serrate,</i> <i>decurent on the petiole. (Ph.)</i>
<i>Tree</i>	20 F. with a flattish head.
— <i>Trunk</i>	6 F.
— <i>Bark</i>	rimose, peeling.
— <i>Branches</i>	spreading and hanging to the ground.
— <i>Expansion</i>	30-40 F.
— <i>Bark</i>	glab. pale brown.
<i>Petiole</i>	glab. or 0, the leaf decurring to its insertion.
<i>Leaves</i>	alternate, subrhomboid, incised-serrate.
— <i>Section</i>	shallow.
— <i>Sinus</i>	acute.
— <i>Lobes</i>	acute-angular.
— <i>Margin</i>	inequally-serrate.
— <i>Serratures</i>	obtuse-angular.
— <i>Sinus</i>	obtuse and acute-angular.
— <i>Sides</i>	(exterior) excurved, (interior) short in or excurved.
— <i>Apices</i>	brown, acute indurations.
— <i>Base</i>	acute-angular, intire.
— <i>Apex</i>	" "
— <i>Surface</i>	dark green, glab.
— <i>Subface</i>	(parenchyma) glab. with minute granules.
— <i>Axis</i>	prominent, long-haired.
— <i>Branches</i>	alternate, " "
<i>Inflorescence.</i>	corymbose.
<i>Peduncles & } Pedicels</i>	with few, long, white hairs.
<i>Calyx</i>	5-fid. long-white-haired.
— <i>Segments</i>	lanceolate, linear, hairy.
— <i>Margin</i>	intire! (eglandular).
— <i>Sinus</i>	obtuse-angular.
<i>Corol</i>	5-petaled.
— <i>Petals</i>	orbicular, inequally crenate.
— <i>Claw</i>	very short.
<i>Stamens</i>	numerous, shorter than petals, inserted at the mouth of calyx.

— Filaments . . .	glab. awled.
— Anthers . . .	oblong, medifixed, pale pink-color.
— Lobes . . .	adnate.
Pistil.	
— Ovaries . . .	hid in the calyx.
— Styles . . .	4, filiform, = stamens.
— Stigmas . . .	simple, small, spongy.
Drupoid . . .	glab. punctate! crowned by the calyx.
— Nutlets . . .	3, plane-convex, lapideous, closed together by the plane sides, 1-celled.
— Kernel . . .	one.
Floration . . .	18th May. (Fruit, 3d Sept. 1821.)
Place	Arboretum, Kew.
Country . . .	Virginia and Carolina.
Dissection . . .	f. 1. drupoid with persisting calyx. —2. " " part of the epicarp cut away. to shew the 3 nutlets, round an ideal axis. —3. a nutlet.





W. T. Smith del.

Collected by J. & A. Smith, Cornhill, August 11, 1872.

W. T. Smith del.

MESPILUS GLANDULOSA. (W.)

Hollow-leaved Mespilus.

<i>Plant</i>	<i>spinous.</i>
<i>Petioles,</i> <i>Stipules, &</i> <i>Calyx</i> }	<i>glandular.</i>
<i>Leaves</i>	<i>obovate-cuneiform, angular, glab. shining.</i>
<i>Berry</i>	<i>oval, 5-seeded. (W. E.)</i>
<i>Shrub</i>	<i>large.</i>
— <i>Bark</i>	<i>pale brown, glab. warty.</i>
— <i>Branchlets</i>	<i>reddish.</i>
<i>Petiole</i>	<i>glab. grooved, = $\frac{1}{2}$ length of leaf, glandular on the edges.</i>
<i>Leaves</i>	<i>alternate, rhomboid, incised-serrate upwards.</i>
— <i>Section</i>	<i>acute.</i>
— <i>Lobes</i>	<i>3-4, acute, on each side the upper half of leaf and serrate.</i>
— <i>Serratures</i>	<i>inequally, acute.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Vertices</i>	<i>obtuse, tipped with red glands.</i>
— <i>Base</i>	<i>obtuse-angular.</i>
— <i>Apex</i>	<i>pointed.</i>
— <i>Surface</i>	<i>glab. shining.</i>
— <i>Subface</i>	<i>„ , reticulated-venose.</i>
— <i>Nerves</i>	<i>„ , prominent.</i>
<i>Inflorescence</i>	<i>corymbose.</i>
<i>Bracteas</i>	<i>semilunar.</i>
— <i>Margin</i>	<i>one closely glanded and the other naked.</i>
<i>Calyx</i>	<i>glab. 5-fid.</i>
— <i>Segments</i>	<i>long-lanceolate, acute, intire, reflected.</i>
— <i>Margin</i>	<i>glandular.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>orbicular, inequally crenate, or lanceolate-undulate.</i>
<i>Stamens</i>	<i>7-8, inserted on the edge of a membrane covering mouth of calyx.</i>
— <i>Filaments</i>	<i>subulate, shorter than petals.</i>
— <i>Anthers</i>	<i>oblong, medifxt.</i>
— <i>Lobes</i>	<i>adnate, furrowed.</i>
<i>Pistil.</i>	

— Ovaries . . .	hid in the calyx.
— Styles . . .	3, filiform, shorter than stamens.
— Stigmas . . .	simple, small, puckered.
Drupoid . . .	red, ovate, crowned by persisting calyx.
— Nutlets . . .	4, verticillate, plane-convex, 1-kerneled.
Floration . . .	9th May. (Fruit, Oct.)
Place	Messrs. Whitley and Co's., Fulham.
Country . . .	Canada and on the Allegany Mountains.
Dissection . . .	f. 1. drupoid, with part of the epicarp cut away to shew the 4 nutlets. —2. transverse section of the drupoid. —3. nutlet. —4. „ , transversely sected.





1840-1841

Painted by J. A. Smith. Engraved by J. A. Smith.

W. A. Smith.

MESPILUS FLAVA.*Yellow pear-berried Mespilus.*

<i>Plant</i>	<i>spinous.</i>
<i>Leaves</i>	<i>obovate-cuneate, subulate, crenate-serrate.</i>
<i>Stipules</i>	<i>cordate, glandular.</i>
<i>Petioles</i>	<i>short.</i>
<i>Flowers</i>	<i>subsultary.</i>
<i>Calyxes</i>	<i>glandular. (Ph.)</i>
Tree	14-20 F.
— Branches	divaricated, spreading to the ground.
— Bark	brown, glab. warty.
Petiole	short, or merely the decurrence of leaf.
— Edge	set with red glands.
Leaves	alternate and in terminal bundles, rhomboid-spatulate, upper part incised-serrate.
— Section	very shallow.
— Lobes	very short, serrate.
— Serratures.	
— Sinus	acute.
— Sides	excurved.
— Vertices	tipt with brown glands.
— Base	long, acute.
— Apex	obtuse-angular.
— Surface	glab. shining.
— Subface	" "
— Nerves	sub-prominent, glab.
Stipules	at base of leaves, semilunar.
— Margin	gland-serrate, inner one intire.
Flowers	subsultary, (1-2), terminal.
Pedicels	glab.
Calyx	glab. 5-fid.
— Segments	lanceolate, gland-serrate.
Corol	5-petaled.
— Petals	orbicular, inequally crenate.
Stamens	numerous, = corol, inserted on the mouth of calyx.
— Filaments	glab. tapering.
— Anthers	oblong, medifxt.
— Lobes	adnate, grooved.
Pistil.	
— Ovaries	hid in the calyx.
— Style	1, filiform, shorter than stamens.

— Stigma . . .	simple, scarcely apparent.
Drupoid . . .	elliptic, glab. crowned by calyx, 4-nutleted.
— Nutlets . . .	disposed round an imaginary axis, 1 fertile and 3 abortive.
Floration . . .	13th May. (Fruit, 3d Sept. 1821.)
Place	Arboretum, Kew.
Country . . .	Virginia to Carolina.
Dissection . . .	f. 1. stipule. —2. drupoid and calyx. —3. „ transversely sected, shewing the 4 nutlets, one only fertile.



1804. 1. 1. 1.

Bot. by J. & A. Arch. Cornhill. August 1. 1802.

W. 22. 1. 1.

MESPILUS PURPUREA. (Bohc.)*Purple Mespilus.*

<i>Leaves</i>	<i>broadly lobate or incised.</i>
— <i>Serratures</i>	<i>glandular.</i>
— <i>Faces</i>	<i>glab.</i>
<i>Stipules</i>	<i>subcinnate, serrate-glandular. (Enc.)</i>
<i>Tree</i>	<i>10 F.</i>
— <i>Branches</i>	<i>glab. brown-purple, warty, obsoletely ridged.</i>
<i>Petiole</i>	<i>short, glab.</i>
<i>Leaves</i>	<i>alternate, rhomboid, incised, inequally dentate.</i>
— <i>Section</i>	<i>shallow.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>subexcurved, intire.</i>
— <i>Lobes</i>	<i>inequally dentate.</i>
— <i>Dents</i>	<i>obtuse and acute-angular.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Vertices</i>	<i>shaggyish.</i>
— <i>Base</i>	<i>attenuated, intire, decurrent on the petiole.</i>
— <i>Apex</i>	<i>obtuse-angular.</i>
— <i>Faces</i>	<i>rugose.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>„ , paler.</i>
— <i>Axis & Branches</i> }	<i>purple-red, glab.</i>
— <i>As</i>	<i>pubescent.</i>
<i>Corymb</i>	<i>about 8-flowered.</i>
<i>Calyx</i>	<i>glab.</i>
— <i>Segments</i>	<i>lanceolate, rarely denticulate, bent back.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>circular, submarginate, short-clawed.</i>
<i>Stamens</i>	<i>numerous, longer than petals, inserted in the calyx.</i>
— <i>Filaments</i>	<i>awled.</i>
— <i>Anthers</i>	<i>purple, medifixt, oblong.</i>
<i>Pistil</i>	
— <i>Ovaries</i>	<i>hid in the calyx.</i>
— <i>Styles</i>	<i>2, filiform, shorter than stamens.</i>
— <i>Stigmas</i>	<i>simple, rather puckered.</i>
<i>Drupoid</i>	<i>globular, crowned by the calyx.</i>
— <i>Nutlets</i>	<i>3, plane-convex, 2-ribbed, 1-kerneled.</i>

Floration . . .	May. (Fruit, Aug. 1821.)
Place	Mr. Jenkins's Botanic Garden, New Road.
Country . . .	?
Dissection . . .	f. 1. drupoid, the epicarp cut away, with nutlets and persisting calyx. —2. nutlet. —3. „ , transversely sected. —4. „ , longitudinally „ —5. kernel.
<i>Observation.</i>	It is called <i>M. sanguinea</i> in the gardens, but is very different from the <i>Pyrus sanguinea</i> of Pursh.



W. & A. 1846.

W. & A. 1846.

W. & A. 1846.

MESPILUS PYRIFOLIA. (W.)

Pear-leaved Mespilus.

<i>Plant</i>	<i>spinous or naked.</i>
<i>Leaves</i>	<i>ovate-elliptic, incised-serrate, subplicate, subhirtous.</i>
<i>Calyx</i>	<i>subvillous.</i>
— <i>Segments</i>	<i>linear-lanceolate, serrate.</i>
<i>Flowers</i>	<i>3-gynous. (W.)</i>
<i>Tree</i>	<i>10-12 F.</i>
— <i>Branches</i>	<i>olive, glab.</i>
<i>Petiole</i>	<i>0, or only decurrence of leaf.</i>
<i>Leaves</i>	<i>alternate, rhomboid, upper part incised-dentate.</i>
— <i>Section</i>	<i>shallow, obtuse-angular.</i>
— <i>Lobes</i>	<i>dent-like.</i>
— <i>Margin</i>	<i>dentate.</i>
— <i>Dents</i>	<i>obtuse and acute-angular.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Vertices</i>	<i>callous.</i>
— <i>Base</i>	<i>acute-angular, intire.</i>
— <i>Apex</i>	<i>"</i>
— <i>Surface</i>	<i>scabrous and set with solitary, fleshy hairs.</i>
— <i>Subface</i>	<i>pubescent!!</i>
— <i>Axis</i>	<i>prominent.</i>
— <i>Branches</i>	<i>alternate, with fork-like divisions.</i>
<i>Corymb</i>	<i>many flowered.</i>
<i>Peduncles & } Pedicels</i>	<i>with projecting white hairs, herbaceous.</i>
<i>Bracteas</i>	<i>a little below the flowers, long, pink, subserrate.</i>
— <i>Margin</i>	<i>glandular.</i>
<i>Calyx</i>	<i>sericeous, oblong, 5-parted.</i>
— <i>Segments</i>	<i>reflected, gland-serrate.</i>
— <i>Sinus</i>	<i>obtuse.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>orbicular, glab.</i>
— <i>Margin</i>	<i>repand.</i>
<i>Stamens</i>	<i>numerous, = petals, inserted on the edge of a membrane covering the mouth of calyx.</i>
— <i>Filaments</i>	<i>glab. subulate.</i>
— <i>Anthers</i>	<i>subdeltoid, medifixt, red, glab.</i>
— <i>Lobes</i>	<i>united.</i>
<i>Pistil.</i>	
— <i>Ovaries</i>	<i>hid in the calyx.</i>
— <i>Styles</i>	<i>1-3, filiform.</i>

— Stigmas . . .	rather thicker than style, 1-4-fid.
Drupoid . . .	elliptic, 4-nutleted.
— Nutlet . . .	plane-convex, round an imaginary axis, 1 kerneled.
Floration . . .	May. (Fruit, 24th June, 1821.)
Place	Messrs. Colvill and Son's, King's Road, Chelsea.
Country	Pennsylvania to Carolina.
Dissection . . .	f. 1. drupoid with persisting calyx, —2. „ transversely sected. —3. „ with part of the epicarp cut away. —4. transverse section of a nutlet, shewing the kernel.



MESPILUS COCCINEA. (W.)*Scarlet-fruited Hawthorn.*

Plant	<i>spinous.</i>
Leaves	<i>deltoid, cordate-ovate, incised-angular, glab. acutely serrate.</i>
Petiole & } Calyx	<i>pubescent, glandular.</i>
Petals	<i>orbicular.</i>
Flowers	<i>5-gynous. (Ph.)</i>
Tree	18-20 F.
Stem	5 F.
— Bark	crackt.
— Branches	pale brown, glab. divaricated, pendant.
Petiole	very long, sub=leaf, few-haired, sulcate and glandular above.
Leaves	alternate, cordate-orbicular, incised-serrate.
— Section	shallow, $\frac{1}{2}$.
— Sinus	acute-angular.
— Lobes	obtuse-angular.
— Margin	serrate.
— Serratures	acuminate.
— Sinus	obtuse and obtuse-angular.
— Sides	(exterior) bowform, (interior) subincurved.
— Vertices	indurated.
— Base	truncate-ovate or subcordate.
— Apex	obtuse-angular.
— Surface	subscabrous.
— Subface	with solitary, short hairs.
— Axis & } — Branches	prominent, horizontally pubescent.
Inflorescence	corymbose.
Pedicels	green, pubescent.
Calyx	pubescent, 5-fid.
— Segments	horizontal, lanceolate, acuminate, gland-serrate.
— Sinus	obtuse.
Corol	5-petaled.
— Petals	suborbicular, inequally crenate.
— Claw	short.
Stamens	shorter than corol, inserted in the margin of a disk-like membrane with glossy, puckered lobes, covering orifice of calyx.
— Filaments	glab. awled.
— Anthers	medifixt, ovate, glab.

— Lobes . . .	whole length adnate.
Pistil.	
— Ovaries . . .	hid in the calyx.
— Styles . . .	3, filiform, glab.
— Stigma . . .	small, simple, fungous.
Drupoid . . .	globular, strewed with little, red-inside, shields, crowned by calyx and closed by disk.
— Nutlets . . .	5, verticillate round an imaginary axis, transverse section obovate, 1-celled, 1-seeded, some abortive.
Floration . . .	May. (Fruit, 20th Aug. 1821.)
Place	Mrs. Simpson, Walham Green.
Country . . .	Canada to Carolina.
Dissection . .	f. 1. transverse section of drupoid, shewing the site of the 5 nutlets. —2. nutlet. —3. „ , longitudinally sected. —4. „ , transversely „ .



MESPILUS CORDATA. (W.)*Maple-leaved Mespilus.*

<i>Plant</i>	<i>spinous.</i>
<i>Leaves</i>	<i>cordate-ovate, incised-angulate, glab.</i>
<i>Petiole</i> & }	<i>without glands.</i>
<i>Calyx</i>	
<i>Flowers</i>	<i>5-gynous. (Ph.)</i>
<i>Tree</i>	<i>20 F.</i>
— <i>Branches</i>	<i>spreading, divaricated, glab. lead-brown.</i>
<i>Petiole</i>	<i>= $\frac{1}{3}$ length of leaf, glab.</i>
<i>Leaves</i>	<i>alternate, subcordate-deltoid, incised-dentate.</i>
— <i>Section</i>	<i>rather shallow.</i>
— <i>Lobes</i>	<i>short-acuminate.</i>
— <i>Dents</i>	<i>obtuse and acute-angular.</i>
— <i>Sinus</i>	<i>„ angular.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Vertices</i>	<i>acute, indurated.</i>
— <i>Base</i>	<i>subcordate.</i>
— <i>Apex</i>	<i>shortly acuminate.</i>
— <i>Surface</i>	<i>dark, shining green.</i>
— <i>Subface</i>	<i>(parenchyma) glab. covered with pale atoms.</i>
— <i>Axis</i>	<i>prominent, glab.</i>
— <i>Branches</i>	<i>glab. (2 lower) prominent.</i>
<i>Corymb.</i>	<i>many-flowered.</i>
<i>Peduncles</i>	<i>glab. warty.</i>
— <i>Pedicels</i>	<i>„ „ , = fruit.</i>
<i>Calyx</i>	<i>glab. dentate.</i>
— <i>Dents</i>	<i>acute-angular.</i>
— <i>Margin</i>	<i>intire.</i>
— <i>Sinus</i>	<i>obtuse-angular.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>obtuse, inequally crenulate.</i>
<i>Stamens</i>	<i>numerous, rather shorter than petals, inserted on a membrane lining mouth of calyx.</i>
— <i>Filaments</i>	<i>tapering, glab.</i>
— <i>Anthers</i>	<i>white, basifixt, oblong.</i>
— <i>Lobes</i>	<i>grooved.</i>
<i>Pistil</i>	<i>shorter than stamens.</i>
— <i>Ovary</i>	<i>hid in the calyx.</i>
— <i>Styles</i>	<i>5, pubescent at base, a little thicker upwards.</i>
— <i>Stigmas</i>	<i>simple, spongy, rather projecting.</i>
<i>Drupoid</i>	<i>small, glab. crowned by the calyx.</i>

— Epicarp . . .	open at top.
— Nutlets . . .	5, verticillate and approximated by their flat sides, 3 fertile and 2 abortive.
Floration . . .	8th June. (Fruit, 3d Sept. 1821.)
Place	Arboretum, Kew.
Country . . .	Canada to Virginia.
Dissection . . .	f. 1. drupoid, with part of the epicarp cut away to shew the 5 nutlets. — 2, 3. transverse sections of drupoid, with 5 cells, 2 of which are abortive. — 4. nutlet. — 5. „ , transversely sected. — 6. kernel.



MESPILUS NIGRA. (W. & K.)*Black-fruited Mespilus.*

<i>Plant</i>	<i>spinous or naked.</i>
<i>Flowers</i>	<i>5-gynous.</i>
<i>Calyx</i>	<i>villous.</i>
— <i>Segments</i>	<i>subdentate.</i>
<i>Leaves</i>	<i>lobate-sinuate, serrate.</i>
— <i>Base</i>	<i>truncate-subcuneate.</i>
— <i>Surface</i>	<i>villous-hoary. (W. E.)</i>
<i>Shrub</i>	7-8 F. upright.
— <i>Branches</i>	brown, glab. warty.
<i>Petiole</i>	= $\frac{1}{4}$ length of leaf, pubescent.
<i>Leaves</i>	alternate, oblong, incised-serrate.
— <i>Section</i>	$\frac{1}{3}$ or $\frac{1}{2}$, split-like.
— <i>Sides</i>	straight.
— <i>Lobes</i>	acute.
— <i>Margin</i>	inequally dentate.
— <i>Dents</i>	obtuse-angular.
— <i>Sinus</i>	acute.
— <i>Sides</i>	both excurved.
— <i>Vertices</i>	sharp, callous.
— <i>Base</i>	cuneate.
— <i>Apex</i>	obtuse-angular.
— <i>Surface</i>	glab.
— <i>Subface</i>	pubescent.
— <i>Axis & Branches</i> }	prominent, pubescent.
<i>Corymb</i>	pauciflorous, (3-4-flowered).
<i>Peduncles & } — Pedicels }</i>	densely tomentose.
<i>Bracteas</i>	several on the pedicels, narrow, linear, pointed.
<i>Calyx</i>	short, tomentose.
— <i>Segments</i>	7! rolled back, subserrulate at end.
— <i>Sinus</i>	obtuse.
<i>Corol</i>	5-petaled.
— <i>Petals</i>	rotund, intire, glab.
— <i>Claw</i>	short.
<i>Stamens</i>	numerous, in =, inserted just below the sinuses of calyx on the edge of a membrane covering its orifice.

— Filaments . . .	long, subulate.
— Anthers . . .	2-lobed, adnate in the middle.
— Lobes . . .	oblong.
Pistil.	
— Ovaries . . .	hid in the calyx.
— Styles . . .	5.
— Stigmas . . .	flat, projecting over the style.
Drupoid . . .	orbicular, glab. 5-nutleted.
— Nutlets . . .	round an imaginary axis.
Floration . . .	May. (Fruit, 6th July, 1821.)
Place	Messrs. C. Loddiges and Sons', Hackney.
Country . . .	Hungary.
Dissection . . .	f. 1. stipule. —2. drupoid, with part of the epicarp cut away to shew the nutlets. —3. a nutlet.



MESPILUS PARVIFOLIA (W.)

Gooseberry-leaved Mespilus.

Plant	<i>spinous.</i>
Leaves	<i>cuneate-ovate, incised, serrate, subtomentose.</i>
Calyx (Sepals) .	<i>lanceolate, incised, = fruit.</i>
Flowers	<i>solitary, 5-gynous.</i>
Fruit	<i>subturbinate, punctate-verrucose. (Ph.)</i>
Shrub	<i>small, upright, 4-5 F.</i>
— Branches . .	<i>dark-brown, glab. covered with very minute elevated points.</i>
Petiole	<i>very short, red, pubescent.</i>
Leaves	<i>alternate, ovate-cuneate, incised, crenate-dentate.</i>
— Section . . .	<i>shallow.</i>
— Sinus	<i>acute.</i>
— Sides	<i>short.</i>
— Lobes	<i>„ crenate-dentate.</i>
— Dents	<i>obtuse.</i>
— Sinus	<i>acute.</i>
— Sides	<i>excurved.</i>
— Vertices . .	<i>short, fleshy.</i>
— Base	<i>cuneate.</i>
— Apex	<i>obtuse-angular.</i>
— Surface . . .	<i>shining, dark-green, strewed with short, white hairs.</i>
— Subface . . .	<i>paler, dull-green, reticulated-veined.</i>
— Axis	<i>elevated.</i>
— Branches . .	<i>fainter, all strongly pubescent.</i>
Stipules	<i>2, minute, 1-sided, on the shoots at base of each leaf, inequally lanceolate, gland-tipt-dentate on one side.</i>
Flowers	<i>solitary, axillary and terminal.</i>
Pedicels	<i>short, horizontally pubescent.</i>
Bracteas	<i>2-5, opposite each pedicel, petiolate, lanceolate, acute, inequally denticulate, gland-tipt.</i>
Calyx	<i>pubescent, 5-7-fid.</i>
— Tube	<i>rather long.</i>
— Segments . .	<i>long, lanceolate, pubescent.</i>
— Margin	<i>2-dentate.</i>
— Dents	<i>tipt with red glands.</i>
Corol	<i>5-petaled.</i>



SPIRÆA CARPINIFOLIA. (W. E.)

Hornbeam-leaved Spirea.

<i>Leaves</i>	<i>ovate-elliptic, largely serrate.</i>
— <i>Apices</i>	<i>acute.</i>
— <i>Faces</i>	<i>glab.</i>
<i>Racemes</i>	<i>divaricate-paniculate. (W. E.)</i>
<i>Shrub</i>	<i>erect.</i>
<i>Stem</i>	<i>reddish-brown, glab. with 10 elevated, parallel fillets and broad, flat intervals.</i>
<i>Petiole</i>	<i>short, sericeous.</i>
<i>Leaves</i>	<i>alternate, obovate.</i>
— <i>Margin</i>	<i>inequally serrate.</i>
— <i>Serratures</i>	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>excurred.</i>
— <i>Vertices</i>	<i>callous, blunt.</i>
— <i>Base</i>	<i>tapering, intire.</i>
— <i>Apex</i>	<i>obtuse-angular.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>„ , subglaucous.</i>
— <i>Axis,</i>	<i>„ , prominent.</i>
— <i>Branches & Veins</i> }	
<i>Raceme</i>	<i>superdecompound, terminal.</i>
<i>Axis & Peduncles</i> }	<i>set with horizontal hairs.</i>
<i>Pedicels</i>	<i>lirate-sulcate, pubescent.</i>
<i>Calyx</i>	<i>subglab. 5-fid. lirate-sulcate.</i>
— <i>Segments</i>	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>obtuse.</i>
— <i>Margins</i>	<i>excurred, intire.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>orbicular, intire.</i>
<i>Stamens</i>	<i>numerous, longer than corol, inserted under the edge of the disk.</i>
— <i>Filaments</i>	<i>long, slender, filiform.</i>
— <i>Anthers</i>	<i>glab. medifxt.</i>
— <i>Lobes</i>	<i>adnate.</i>
<i>Disk</i>	<i>membranous, = tube of calyx.</i>
— <i>Margin</i>	<i>fleshy, undulate-puckered.</i>
— <i>Stamens</i>	<i>shorter than stamens.</i>
— <i>Ovaries</i>	<i>6, elliptic, glab. free.</i>
— <i>Styles</i>	<i>long, filiform.</i>
— <i>Stigmas</i>	<i>simple, subclavate.</i>
<i>Floration</i>	<i>24th July, 1821.</i>
<i>Place</i>	<i>Mr. James Lee's, Hammersmith.</i>
<i>Country</i>	<i>Canada to Carolina.</i>



SPIRÆA BETULÆFOLIA. (Pal.)

Birch-leaved Spirea.

<i>aves</i>	<i>broad-ovate.</i>
<i>Margin</i>	<i>incised-serrate.</i>
<i>Subface</i>	<i>glab.</i>
<i>rymb</i>	<i>terminal, compound, fastigiate, foliose. (Ph.)</i>
<i>rub</i>	<i>low, erect.</i>
<i>Branches</i>	<i>glab, purple-brown, cylindric, with slight elevations.</i>
<i>tirole</i>	<i>very short, glab.</i>
<i>aves</i>	<i>alternate, ovate-elliptic.</i>
<i>Margin</i>	<i>2-dentate.</i>
— <i>Dents</i>	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>acute-</i>
— <i>Sides</i>	<i>(exterior) bowform, (interior) incurved.</i>
— <i>Vertices</i>	<i>callous.</i>
<i>Base</i>	<i>round.</i>
<i>Apex</i>	<i>obtuse.</i>
<i>Surface</i>	<i>glab. bullate.</i>
<i>Subface</i>	<i>"</i>
<i>Nervation</i>	<i>" , prominent.</i>
<i>rymb</i>	<i>dense, compound, terminal.</i>
<i>duncles & } Pedicels }</i>	<i>green, glab.</i>
<i>lyx</i>	<i>glab. 5-dentate.</i>
<i>Dents</i>	<i>short, obtuse.</i>
— <i>Margins</i>	<i>obtuse.</i>
— <i>Sinus</i>	<i>"</i>
<i>rol</i>	<i>5-petaled.</i>
<i>Petals</i>	<i>orbicular, glab. intire.</i>
<i>mens</i>	<i>numerous, much longer than corols, inserted at the sinuses of the calyx, with short, gland-like nec- taries at their bases.</i>
<i>Filaments</i>	<i>glab. slender.</i>
<i>Anthers</i>	<i>" , pink, medifixt.</i>
— <i>Lobes</i>	<i>adnate.</i>
<i>tils</i>	<i>5, $\frac{1}{2}$ length of stamens.</i>
<i>Ovaries</i>	<i>glab. ovate, free.</i>
<i>Styles</i>	<i>twice as long as ovaries.</i>
<i>Stigmas</i>	<i>clubbed.</i>
<i>ration</i>	<i>13th July, 1821.</i>
<i>ice</i>	<i>Mr. Knight's, King's Road, Chelsea.</i>
<i>untry</i>	<i>Mountains of Virginia.</i>



1840

1840

1840

SPIRÆA TRILOBA. (W.)

Three-lobed Spirea.

<div> <div>ves</div> <div>bels</div> </div>	<div> <div><i>subrotund, subcordate, obtusely lobate-dentate.</i></div> <div><i>pedunculate. (W.)</i></div> </div>
<div> <div>ub</div> <div>m</div> </div>	<div> <div>very low.</div> <div>brown, glab.</div> </div>
<div> <div>iole</div> </div>	<div> <div>short, glab.</div> </div>
<div> <div>ives</div> <div>Section . . .</div> <div>- Sinus . . .</div> <div>- Sides . . .</div> <div>Lobes</div> <div>- Dents . . .</div> <div>— Sinus . . .</div> <div>— Sides . . .</div> <div>— Vertices . .</div> <div>Base</div> <div>Apex</div> <div>Faces</div> <div>Nerves</div> </div>	<div> <div>alternate, incised-lobate at apex.</div> <div>from the apex, shallow.</div> <div>acute.</div> <div>excurved.</div> <div>dentate.</div> <div>acute.</div> <div>"</div> <div>excurved.</div> <div>naked.</div> <div>truncate-ovate, intire.</div> <div>obtuse.</div> <div>glab.</div> <div>prominent.</div> </div>
<div> <div>bels</div> <div>Rays</div> </div>	<div> <div>simple, terminal, subcorymbose.</div> <div>glab.</div> </div>
<div> <div>yx</div> <div>segments . . .</div> <div>ol</div> <div>Petals</div> <div>nens</div> <div>Filaments . . .</div> <div>Anthers . . .</div> <div>ils</div> <div>Ovaries</div> <div>styles</div> <div>stigmas</div> </div>	<div> <div>glab. 4-fid.</div> <div>subacuminate, mucronate.</div> <div>4-petaled.</div> <div>orbicular, intire, longer than stamens, inserted at the sinuses of calyx.</div> <div>16, inserted on the calyx at the depth of the segments.</div> <div>longer than the calyx.</div> <div>orbicular.</div> <div>shorter than stamens.</div> <div>glab. oblong, free.</div> <div>rather longer than the ovaries, curved.</div> <div>scarcely apparent.</div> </div>
<div> <div>ation</div> </div>	<div> <div>30th May, 1821.</div> </div>
<div> <div>re</div> </div>	<div> <div>Mr. James Lee's, Hammersmith.</div> </div>
<div> <div>ntry</div> </div>	<div> <div>Siberia and the Altaic Mountains.</div> </div>



J. Hart, Del.

Printed by J. M. A. Smith, London, 1827.

W. & A. G. S.

RUBUS LACINIATUS. (W. Hort. Berl.)

Jagged-leaved Bramble.

<i>Leaves</i>	<i>quinate-digitate and ternate.</i>
— <i>Leaflets</i>	<i>pinnate.</i>
<i>Stem,</i> <i>Petiole, &</i> <i>Peduncle</i> }	<i>aculeate.</i>
<i>Prickles</i>	<i>recurved. (W. E.)</i>
<i>Shrub</i>	<i>spreading and straggling.</i>
— <i>Branches</i>	<i>recurved, aculeate, hirsute, set with horizontal hairs.</i>
— <i>Prickles</i>	<i>short, recurved, red, shining.</i>
<i>Petiole</i>	<i>(common) pubescent, aculeate.</i>
"	<i>(foliolar) in =, pubescent.</i>
<i>Leaves</i>	<i>alternate, subbipinnate.</i>
— <i>Leaflets</i>	<i>irregular, sinuate-serrate.</i>
— <i>Section</i>	$\frac{1}{2}$.
— <i>Simus</i>	<i>acute-angular.</i>
— <i>Sides</i>	<i>subrectilinear.</i>
— <i>Lobes</i>	<i>acuminate.</i>
— <i>Margin</i>	<i>inequally serrate.</i>
— <i>Serratures</i>	<i>acuminate.</i>
— <i>Simus</i>	<i>acute.</i>
— <i>Sides</i>	<i>various.</i>
— <i>Vertices</i>	<i>long, brown indurations.</i>
— <i>Base</i>	<i>subcordate.</i>
— <i>Apex</i>	<i>acuminate.</i>
— <i>Surface</i>	<i>glab.</i>
— <i>Subface</i>	<i>pubescent.</i>
— <i>Axis &</i> — <i>Branches</i> }	" , <i>prominent.</i>
— <i>Veins</i>	" .
<i>Inflorescence</i>	<i>paniculate.</i>
<i>Peduncles &</i> — <i>Pedicels</i> }	<i>recurvedly aculeate, set with horizontal pubescence.</i>
<i>Bracteas</i>	<i>pubescent, long, linear, acute.</i>
<i>Calyx</i>	<i>reflected, 5-parted, sericeous, curved-spined.</i>
— <i>Segments</i>	<i>3-dentate, 2 laterals long, acute, mid-one twice as long, lanceolate.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>cuneate.</i>
— <i>Apex</i>	<i>3-dentate.</i>

— Dents . . .	acuminate, distant.
Stamens . . .	numerous, shorter than corol, in 5 pleurodiscal phalanges.
— Filaments . . .	slender, subulate.
— Anthers . . .	elliptic, apicifixt.
Disk	lining the calyx.
— Margin . . .	obtuse, set with brown scales.
Pistils	numerous, = stamens.
— Ovaries . . .	” , on a conic gynophore arising from the disk.
— Styles . . .	thicker upwards.
— Stigmas . . .	simple, scarcely apparent.
Floration . . .	28th June, 1821.
Place	Mr. Knight's, King's Road, Chelsea.
Country	?



POTENTILLA FLORIBUNDA.

Cluster-flowered Cinquefoil.

<i>Plant</i>	<i>erect, much branched, very hirsute.</i>
<i>Stipules</i>	<i>ovate, intire.</i>
<i>Leaves</i>	<i>quinate-pinnate.</i>
— <i>Leaflets</i>	<i>linear-oblong.</i>
— <i>Margin</i>	<i>revolute.</i>
<i>Petioles</i>	<i>short.</i>
<i>Corymb</i>	<i>terminal, 2-chotomous, densely multiflowered.</i>
<i>Calyx (Segments)</i>	<i>sub=.</i>
<i>Petals</i>	<i>subrotund, = length of calyx. (Ph.)</i>
<i>Subshrub</i>	<i>low, 1½-2 F.</i>
<i>Stem & — Branches</i> }	<i>dull purple, covered with long hairs.</i>
<i>Petiole</i>	<i>= ¾ length of leaf.</i>
<i>Leaves</i>	<i>digitate-pinnate, alternate.</i>
— <i>Leaflets</i>	<i>7, four from the same point at base and 3 united terminal, sessile, linear-lanceolate.</i>
— <i>Margin</i>	<i>intire, subrevolute.</i>
— <i>Base</i>	<i>acute-angular.</i>
— <i>Apex</i>	<i>„, red tipt.</i>
— <i>Surface</i>	<i>subglab.</i>
— <i>Subface</i>	<i>with long, adpresst hairs.</i>
— <i>Axis, — Branches, — & Veins</i> }	<i>long-haired.</i>
<i>Stipules</i>	<i>membranous, scariose, veined, sheathing the stem, ciliate with long hairs.</i>
— <i>Apex</i>	<i>2-dentate.</i>
<i>Flowers</i>	<i>2-3, terminal.</i>
<i>Pedicels</i>	<i>¼-inch, hairy.</i>
<i>Bracteas</i>	<i>0, except the exterior 5 segments of calyx.</i>
<i>Calyx</i>	<i>pubescent, flat, 5-parted, sub=, 2-serial. (1st Series or outer.)</i>
— <i>Segments</i>	<i>5, leaf-like, pubescent, narrow, pointed, tipt with a red callosity.</i>
— <i>Subface</i>	<i>with prominent axis, branches and veins. (2nd Series or inner.)</i>
— <i>Segments</i>	<i>pubescent, acuminate and with broad bases.</i>
<i>Corol</i>	<i>5-petaled.</i>
— <i>Petals</i>	<i>glab. = calyx, subrotund, intire.</i>
— <i>Claw</i>	<i>short.</i>
<i>Stamens</i>	<i>numerous, shorter than corol, inserted in the calyx.</i>

— Filaments . . .	attenuated.
— Anthers . . .	oblong, brown.
Pistil.	
— Ovaries . . .	hemispheric.
— Styles . . .	numerous, with pappused bases.
— Stigmas . . .	0 apparent.
<hr/>	
Floration . . .	9th July, 1821.
<hr/>	
Place	Messrs. Whitley and Co's., Fulham.
<hr/>	
Country . . .	Canada and on the Mountains of New York and New Jersey.
<hr/>	
Dissection . .	f. Calyx as seen from without.
<hr/>	



TILIA ALBA. (W.)

White Lime Tree.

<i>Flowers</i>	<i>with nectaries.</i>
<i>Leaves</i>	<i>cordate.</i>
— <i>Base</i>	<i>in=.</i>
— <i>Surface</i>	<i>white-tomentose. (W.E.)</i>
<i>Tree</i>	40-45 F. with a round, regular head.
— <i>Stem</i>	6 F.
— <i>Diameter</i>	1½-2 F.
— <i>Bark</i>	pale-brown, glab.
— <i>Branches</i>	numerous, erect, spreading, (lower) hanging.
— <i>Branchlets</i>	cylindric, olive-color, sericeous.
<i>Petiole</i>	= adnate portion of peduncle, thicker at both ends, round, sericeous.
<i>Leaves</i>	alternate, deeply and inequally cordate-elliptic, sub-incised-repand-dentate.
— <i>Lobes</i>	short, angular.
— <i>Margin</i>	subequally repand-dentate.
— <i>Dents</i>	acute-angular.
— <i>Sinus</i>	obtuse and obtuse-angular.
— <i>Sides</i>	subexcurved.
— <i>Vertices</i>	longish, transparent.
— <i>Base</i>	deeply cordate, 1 side protruded lower.
— <i>Apex</i>	short-acuminate.
— <i>Surface</i>	dark green, glab.
— <i>Subface</i>	covered with a close, white felt.
— <i>Nerves</i>	prominent, covered with „ „ .
— <i>Branches</i>	(2 laterals on each side) united at base and sparsed with solitary, brown gland-hairs.
<i>Corymb</i>	3-7-flowered, axillary, alternate.
<i>Peduncles</i>	downy, adnate about ½ way on the bracteas.
— <i>Pedicels</i>	downy.
<i>Bracteas</i>	linear-lanceolate, rather longer than the corymb, axillary, with obtuse apex.
— <i>Margin</i>	intire.
— <i>Faces</i>	covered with a yellowish wool.
<i>Calyx</i>	sericeous, 5-parted, sub = corol.
— <i>Segments</i>	concave, lanceolate, obtuse-angular.
— <i>Sinus</i>	acute.
<i>Corol</i>	5-petaled, inserted between the calyx and stamens.
— <i>Petals</i>	elliptic, subconvex.

— Nectaries . . .	5, = petals, inserted close under the ovary.
— Limb . . .	lanceolate.
— Claw . . .	long.
Stamens . . .	numerous, shorter than the nectaries, inserted round the base of ovary.
— Filaments . . .	glab. slender.
— Anthers . . .	didymous or separated at top, yellow, glab. with a white line indicating the valve.
Pistil . . .	= nectaries.
— Ovary . . .	conic, sericeous.
— Style . . .	thick, oblique, = ovary.
— Stigma . . .	simple, 5-gonous, conic, sericeous, 4-5-ridged.
Floration . . .	11th July, 1822. (Fruit, 17th Sept. 1821.)
Place . . .	Arboretum, Kew.
Country . . .	Hungary and the East.
Dissection . . .	f. 1. calyx and pistil. —2. flower, shewing the 3 series, nectaries, petals and calyx, with the stamens. —3. a stamen. —4. carcerule seen from above. —5. „ , transverse section. —6. „ , longitudinal „ . —7. a seed.
Observation.	This is not <i>T. alba</i> . Mich. in which the principal nerves, according to W. (Baumzucht), are brown-tomentose.



CLEMATIS RETICULATA. (Walt.)*Netted Virgin's Bower.*

Plant	<i>climbing.</i>
Leaves	<i>pinnate, 4-pair.</i>
— Leaflets	<i>ovate, all intire and petiolated, membranous.</i>
— Apices	<i>obtuse.</i>
— Faces	<i>reticulate-veiny.</i>
Flowers	<i>solitary.</i>
Petals	<i>subcoriaceous.</i>
Awns (of Seed) . .	<i>plumose. (Ph.)</i>
<hr/>	
Subshrub	<i>weak, climbing.</i>
Stem	<i>lirate-sulcate, sericeous.</i>
<hr/>	
Petiole	<i>(common) 9 inch, ending in a tendril.</i>
<hr/>	
Leaves	<i>opposite, 2-pinnate (decomposit).</i>
— Pinnules	<i>3-foliate.</i>
— Leaflets	<i>ovate, simple or 2-3-lobed.</i>
— Margin	<i>intire, very finely ciliate.</i>
— Base	<i>ovate and often in=.</i>
— Apex	<i>acute-angular.</i>
— Surface	<i>glab.</i>
— Subface	<i>,, , shining.</i>
— Nerves	<i>5, slightly haired.</i>
— Branches	<i>reticulated.</i>
<hr/>	
Inflorescence . . .	<i>1-flowered, axillary, cernuous.</i>
Peduncles	<i>5 inches.</i>
<hr/>	
Perigone	<i>subsericeous, campanulate, thick, coriaceous, purple-rose-color, 4-fid.</i>
Segments	<i>5-nerved, 3 prominent and 2 fainter.</i>
— Apex	<i>3-lobed, externally sericeous.</i>
— Lobes	<i>acuminate.</i>
— Margin	<i>sericeous.</i>
Stamens	<i>numerous, = $\frac{1}{3}$ segments, inserted round the ovary.</i>
— Filaments	<i>flat, pubescent.</i>
— Anthers	<i>long, adnate to sides of filaments with a fine seam-line.</i>
Pistil	
— Ovaries	<i>numerous, pubescent, tapering into styles.</i>
— Styles	<i>subulate, plumose.</i>
— Stigmas	<i>simple, scarcely apparent.</i>

Floration . . .	24th June, 1822.
Place	Messrs. Colvill and Son's, King's Road, Chelsea.
Country . . .	Georgia and Carolina.
Dissection . . .	f. 1. stamen, shewing the lateral fixation of the anthers. —2. camare. —3. carpel.



CLEMATIS GLAUCA. (W.)

Glaucous Virgin's Bower.

<i>Leaves</i>	<i>composite.</i>
— <i>Leaflets</i> . .	<i>ovate, sublobate, obtuse, mucronate, glaucous.</i>
<i>Petals (Margin)</i>	<i>pubescent. (W.)</i>
<i>Shrub</i>	<i>weak, climbing.</i>
<i>Stem</i>	<i>green, faintly angular, glab.</i>
<i>Petiole</i>	<i>(common) 2 inch.</i>
<i>Tendrils</i> . . .	<i>opposite, spiral, ending with 3 leaflets.</i>
<i>Leaves</i>	<i>twice ternate, opposite.</i>
— <i>Leaflets</i> . .	<i>intire, or 2-3-fid, inequally lanceolate.</i>
— <i>Margin</i> . .	<i>intire.</i>
— <i>Base</i> . . .	<i>in =, ovate.</i>
— <i>Apex</i> . . .	<i>obtuse and subacute, mucronate.</i>
— <i>Faces</i> . . .	<i>glaucous.</i>
— <i>Surface</i> . .	<i>closely speckled with glaucous atoms.</i>
— <i>Subface</i> . .	<i>with long, solitary, white hairs.</i>
— <i>Axis</i> . . .	<i>prominent.</i>
— <i>Branches</i>	<i>fainter, irregular.</i>
<i>Inflorescence</i> . .	<i>flowers solitary, axillary.</i>
<i>Peduncles</i> . . .	<i>1½ inch, with solitary, very short hairs.</i>
<i>Perigone</i> . . .	<i>expanding, 4-sepaled.</i>
— <i>Sepals</i> . . .	<i>yellow, lanceolate, subglab, covered with shining, golden particles.</i>
— <i>Margin</i> . . .	<i>white, tomentose.</i>
<i>Stamens</i>	<i>numerous, inserted round the ovaries.</i>
— <i>Filaments</i> . .	<i>elliptic! flat, with cottony margins.</i>
— <i>Anthers</i> . . .	<i>2, oblong-linear, adnate to edge of filament!</i>
<i>Pistils</i>	<i>shorter than sepals.</i>
— <i>Ovaries</i> . . .	<i>numerous, round, fixed in the alveoles of the elliptic receptacle and covered with long, shining, white hairs.</i>
— <i>Styles</i> . . .	<i>continuations of the ovaries, setaceous, silky.</i>
— <i>Stigmas</i> . . .	<i>long, yellowish underneath, subdilated, short-haired.</i>
<i>Floration</i> . . .	<i>18th July, 1822.</i>
<i>Place</i>	<i>Mr. Knight's, King's Road, Chelsea.</i>
<i>Country</i> . . .	<i>Siberia. Orient.</i>
<i>Dissection</i> . . .	<i>f. 1. stamen to shew the lateral fixation of anthers.</i>
	<i>—2. camare.</i>
	<i>—3. carpel.</i>



CLEMATIS VIRGINIANA. ♂. (W.)

Virginian Virgin's Bower.

<i>Plant</i>	<i>climbing.</i>
<i>Leaves</i>	<i>3-nate.</i>
— <i>Leaflets</i>	<i>ovate, subcordate, incised-dentate and lobate.</i>
<i>Corymb</i>	<i>2-chotomous, few-flowered.</i>
<i>Petals</i>	<i>longer than stamens.</i>
<i>Flowers</i>	<i>dioicous. (Ph.)</i>
<i>Shrub</i>	<i>climbing, slender.</i>
<i>Stem</i>	<i>purple, glab. obtusely lirate, interstices with narrow lines.</i>
— <i>Branches</i>	<i>red, lirate.</i>
<i>Leaves</i>	<i>opposite, 3-nate (pinnate, 3-foliate), tendrill'd.</i>
— <i>Leaflets</i>	<i>3-lobate-dentate.</i>
— <i>Section</i>	<i>shallow.</i>
— <i>Lobes</i>	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>excurved.</i>
— <i>Margin</i>	<i>dentate.</i>
— <i>Dents</i>	<i>obtuse-angular.</i>
— <i>Sinus</i>	<i>acute.</i>
— <i>Sides</i>	<i>both excurved.</i>
— <i>Base</i>	<i>subcordate-ovate, intire (no dents).</i>
— <i>Apex</i>	<i>obtuse-angular.</i>
— <i>Faces</i>	<i>glab.</i>
— <i>Nerves</i>	<i>(3 principal) glab.</i>
— <i>Branches</i>	<i>irregular, „ .</i>
<i>Inflorescence</i>	<i>a compound, axillary raceme.</i>
<i>Bracteas</i>	<i>at base of pedicels, linear, lanceolate, acute.</i>
<i>Perigone</i>	<i>4-sepaled, sericeous.</i>
— <i>Sepals</i>	<i>linear, oblong, intire, acute-angular.</i>
<i>Stamens</i>	<i>numerous, inserted in the centre of the perigone</i>
— <i>Filaments</i>	<i>flat, tapering, running through the anthers and dividing them.</i>
— <i>Anthers</i>	<i>2, oblong, adnate to sides of upper part of filaments (not grooved.)</i>
<i>Floration</i>	<i>10th Aug. 1821.</i>
<i>Place</i>	<i>Mr. James Lee's, Hammersmith.</i>
<i>Country</i>	<i>Canada to Florida.</i>



Hort. 26.

Det. by J. E. A. Rich. Gerrardii. 8147. 1883.

W. 22. 11. 51.

GLEDITSCHIA HORRIDA. ♂. (W.)

Strong Spined Gleditschia.

<i>Legume</i>	<i>polispermous, flat.</i>
<i>Spines</i>	<i>robust, branched, those on the stem fasciculate.</i> (W. B.)
<i>Tree</i>	20-25 F.
<i>Stem</i>	knotty, 5 F. set with spines in bundles.
— <i>Diameter</i> . . .	1 F.
— <i>Bark</i>	smooth.
— <i>Branches</i> . . .	horizontal, (lower) pendant.
<i>Spines</i>	of the stem brown, long, twice branched, glab. very strong.
— <i>Axis</i>	3-inch.
— <i>Branches</i> . . .	2-3 inch, rebranched with very acute thorns.
<i>Petiole</i>	(common), 5-inch, glab. or with a few solitary hairs.
„	(foliolar), short, glab. or few-haired.
<i>Leaves</i>	in alternate bundles of 2-4, abruptly pinnate.
— <i>Leaflets</i> . . .	about 8 pair, in =, elliptic.
— <i>Margin</i>	obsoletely adpresst-serrate.
— <i>Serratures</i> . .	tipt with minute, brown indurations.
— <i>Base</i>	ovate.
— <i>Apex</i>	obtuse, mucronate.
— <i>Surface</i> . . .	glab.
— <i>Subface</i> . . .	„ , speckled with minute, glaucous spots.
— <i>Axis</i>	elevated, glab.
— <i>Branches</i> . . .	0.
<i>Spike</i>	2 inch, foliaceous.
— <i>Flowers</i> . . .	about 30, sessile, ♂.
<i>Peduncles</i> . . .	pubescent.
— <i>Pedicels</i> . . .	0.
<i>Perigone</i> . . .	short, tubular, 10-fid, covered with fleshy hairs.
— <i>Segments</i> . . .	5 outer and 5 inner, linear, long, obtuse.
<i>Corol</i>	0, (unless inner segments of perigone).
<i>Stamens</i>	10, longer than perigone, 5 inserted at middle of tube of inner segments and 5 in the sinuses.
— <i>Filaments</i> . .	subulate, pubescent at base, glab. above.
— <i>Anthers</i> . . .	medifixt, subcordate.
— <i>Lobes</i>	slightly sulcate.
<i>Floration</i> . . .	31st July, 1821. (In 1822, 28th June!)
<i>Place</i>	T. Canham's, Esq., Twickenham.
<i>Country</i>	China.





GENISTA CINEREA. (W. sub Spart.)

Ash-colored Genista.

<i>inches</i> . . .	<i>cylindric, 10-sulcate.</i>
<i>vees</i> . . .	<i>lanceolate, sessile, sericeous.</i>
<i>wers</i> . . .	<i>axillary, solitary, pubescent. (W.)</i>
<i>ub</i> . . .	8 F. diffuse.
<i>m</i> . . .	subglab. cylindric, 10-lirate-sulcate !
<i>Liras</i> . . .	finely sulcate.
<i>Branches</i> . . .	green, furrowed, sericeous.
<i>iole</i> . . .	sub 0.
<i>aves</i> . . .	subsessile, alternate, lanceolate.
<i>Margin</i> . . .	intire.
<i>Base</i> . . .	attenuate.
<i>Apex</i> . . .	acute !
<i>Surface</i> . . .	with a few, white hairs.
<i>Subface</i> . . .	covered with long, adpresst, white, silky hairs.
<i>Axis</i> . . .	scarcely apparent.
<i>ke</i> . . .	terminal, many-flowered.
<i>Pedicels</i> . . .	very short, sericeous.
<i>ctetas</i> . . .	1 at foot of each pedicel and 2 at base of calyx, sericeous, narrow, pointed.
<i>yx</i> . . .	sericeous, 2-fid. $\left\{ \begin{array}{l} 2 \text{ long, acute teeth.} \\ 3 \text{ narrow, close, = teeth.} \end{array} \right\}$
<i>ol</i> . . .	glab.
<i>Standard</i> . . .	reflected.
<i>Wings</i> . . .	= keel.
<i>Keel</i> . . .	sericeous !!
<i>mens</i> . . .	* 1-delphous, =.
<i>Filaments</i> . . .	short.
<i>Anthers</i> . . .	oblong.
<i>til.</i>	
<i>Style</i> . . .	rather longer than stamens.
<i>Stigma</i> . . .	small.
<i>gume</i> . . .	irregular, 4-seeded, sericeous.
<i>oration</i> . . .	6th June, 1821.
<i>ce</i> . . .	Messrs. Malcolm and Co's. Kensington.
<i>untry</i> . . .	Dauphiny. Nice.
<i>section</i> . . .	f. 1. calyx. —2. standard. —3. wings. —4. keel opened. —5. stamens connected in a tube. —6. pistil. —7. legume. —8. section of stem.



GENISTA OVATA. (W. & K.)

Oval-leaved Genista.

<i>Branches</i> . . .	<i>cylindric, striate.</i>
<i>Leaves</i> . . .	<i>short, oblong-ovate, hirsute.</i>
<i>Legume</i> . . .	<i>hirsute. (P.)</i>
Subshrub . . .	low, upright.
— Stem & } — Branches }	horizontally pilose, lirate-sulcate, with a narrow lira in the interstice.
<i>Leaves</i> . . .	alternate, sessile, lanceolate.
— <i>Margin</i> . . .	intire, ciliate.
— <i>Base</i> . . .	taper, sitting on the stem.
— <i>Apex</i> . . .	acute-angular.
— <i>Surface</i> . . .	rugose, few-haired.
— <i>Subface</i> . . .	with a few, long, white hairs.
— <i>Nerves</i> . . .	pubescent, 3 prominent, the 2 outer parallel with margin.
<i>Spike</i> . . .	terminal.
<i>Pedicels</i> . . .	very short, pubescent.
<i>Bracteas</i> . . .	small, lanceolate, undulate, pubescent, at base of each pedicel.
<i>Calyx</i> . . .	inequally 5-fid, ribbed, campanulate, closely cover- ed with long, horizontal, white hairs.
— <i>Segments</i> . . .	narrow, linear, very acute.
— <i>Sinus</i> . . .	acute-angular.
<i>Corol</i> . . .	glab. twice as long as calyx.
— <i>Standard</i> . . .	circular, waved, intire.
— <i>Claw</i> . . .	short.
— <i>Wings</i> . . .	oblong, obtuse.
— <i>Base</i> . . .	one side cleaver-shaped.
— <i>Claw</i> . . .	short.
— <i>Keel</i> . . .	1-petaled, oblong, divided from base upwards.
— <i>Sides</i> . . .	$\frac{1}{2}$ hastate.
— <i>Claws</i> . . .	shortish.
<i>Stamens</i> . . .	in=, 1-delphous.
— <i>Filaments</i> . . .	setaceous.
— <i>Anthers</i> . . .	oblong, basifixt.
<i>Pistil</i> . . .	awled, longer than stamens.
<i>Floration</i> . . .	16th Aug. 1821.
<i>Place</i> . . .	Messrs. Whitley and Co's., Fulham.
<i>Country</i> . . .	Hungary. Slavonia.





GENISTA SCORPIUS. (W. SUB SPART.)

Scorpion Broom.

<i>Peduncle</i> . . .	<i>axillary, multiflowered.</i>
<i>Branches</i> . . .	<i>cylindric, striate, spreading, spinose.</i>
<i>Leaves</i> . . .	<i>oblong, acute, sericeous. (W.)</i>
<i>Shrub</i> . . .	<i>stiff, upright.</i>
<i>Stem</i> . . .	<i>cylindric, furrowed, very short-haired.</i>
<i>Leaves</i> . . .	<i>thick, fleshy, spatulate.</i>
— <i>Margin</i> . . .	<i>intire.</i>
— <i>Base</i> . . .	<i>attenuate.</i>
— <i>Apex</i> . . .	<i>emarginate.</i>
— <i>Faces</i> . . .	<i>strewed with white atoms and solitary hairs.</i>
<i>Flowers</i> . . .	<i>2-3 together, pedicel'd (laterals) on the spines.</i>
— <i>Pedicels</i> . .	<i>glab.</i>
<i>Bracteas</i> . . .	<i>minute, acute, 2 under each flower.</i>
<i>Calyx</i> . . .	<i>glab. 2 labiate { 2-dentate. } { 3 linear dents. }</i>
<i>Corol</i> . . .	<i>glab.</i>
— <i>Standard</i> . .	<i>reflected at a right \angle from the keel, suborbicular, subemarginate.</i>
— <i>Claw</i> . . .	$\frac{1}{4}$ inch.
— <i>Wings</i> . . .	<i>oblong, obtuse, cleaver-shaped.</i>
— <i>Keel</i> . . .	<i>2-petal'd, like the wings.</i>
— <i>Claw</i> . . .	$\frac{1}{4}$ inch.
<i>Anthers</i> . . .	<i>oblong.</i>
<i>Pistil.</i>	
— <i>Ovary</i> . . .	<i>glab.</i>
— <i>Style</i> . . .	<i>ascending, rather longer than filaments.</i>
— <i>Stigma</i> . . .	<i>minute.</i>
<i>Floration</i> . . .	<i>27th May, 1821.</i>
<i>Place</i> . . .	<i>Messrs. Whitley and Co's., Fulham.</i>
<i>Country</i> . . .	<i>Spain. Narbonne.</i>

RECORD OF THE PROCEEDINGS

DATE		DESCRIPTION	AMOUNT
1890	Jan 1	Balance forward	100.00
	Feb 1	Interest on loan	5.00
	Mar 1	Interest on loan	5.00
	Apr 1	Interest on loan	5.00
	May 1	Interest on loan	5.00
	Jun 1	Interest on loan	5.00
	Jul 1	Interest on loan	5.00
	Aug 1	Interest on loan	5.00
	Sep 1	Interest on loan	5.00
	Oct 1	Interest on loan	5.00
	Nov 1	Interest on loan	5.00
	Dec 1	Interest on loan	5.00
1891	Jan 1	Interest on loan	5.00
	Feb 1	Interest on loan	5.00
	Mar 1	Interest on loan	5.00
	Apr 1	Interest on loan	5.00
	May 1	Interest on loan	5.00
	Jun 1	Interest on loan	5.00
	Jul 1	Interest on loan	5.00
	Aug 1	Interest on loan	5.00
	Sep 1	Interest on loan	5.00
	Oct 1	Interest on loan	5.00
	Nov 1	Interest on loan	5.00
	Dec 1	Interest on loan	5.00
1892	Jan 1	Interest on loan	5.00
	Feb 1	Interest on loan	5.00
	Mar 1	Interest on loan	5.00
	Apr 1	Interest on loan	5.00
	May 1	Interest on loan	5.00
	Jun 1	Interest on loan	5.00
	Jul 1	Interest on loan	5.00
	Aug 1	Interest on loan	5.00
	Sep 1	Interest on loan	5.00
	Oct 1	Interest on loan	5.00
	Nov 1	Interest on loan	5.00
	Dec 1	Interest on loan	5.00
1893	Jan 1	Interest on loan	5.00
	Feb 1	Interest on loan	5.00
	Mar 1	Interest on loan	5.00
	Apr 1	Interest on loan	5.00
	May 1	Interest on loan	5.00
	Jun 1	Interest on loan	5.00
	Jul 1	Interest on loan	5.00
	Aug 1	Interest on loan	5.00
	Sep 1	Interest on loan	5.00
	Oct 1	Interest on loan	5.00
	Nov 1	Interest on loan	5.00
	Dec 1	Interest on loan	5.00

DATE		DESCRIPTION	AMOUNT
1894	Jan 1	Interest on loan	5.00
	Feb 1	Interest on loan	5.00
	Mar 1	Interest on loan	5.00
	Apr 1	Interest on loan	5.00
	May 1	Interest on loan	5.00
	Jun 1	Interest on loan	5.00
	Jul 1	Interest on loan	5.00
	Aug 1	Interest on loan	5.00
	Sep 1	Interest on loan	5.00
	Oct 1	Interest on loan	5.00
	Nov 1	Interest on loan	5.00
	Dec 1	Interest on loan	5.00
1895	Jan 1	Interest on loan	5.00
	Feb 1	Interest on loan	5.00
	Mar 1	Interest on loan	5.00
	Apr 1	Interest on loan	5.00
	May 1	Interest on loan	5.00
	Jun 1	Interest on loan	5.00
	Jul 1	Interest on loan	5.00
	Aug 1	Interest on loan	5.00
	Sep 1	Interest on loan	5.00
	Oct 1	Interest on loan	5.00
	Nov 1	Interest on loan	5.00
	Dec 1	Interest on loan	5.00



GENISTA TRIQUETRA. (H. K.)

Triangular Genista.

<i>Leaves</i>	<i>ternate, upper simple.</i>
<i>Branches</i>	<i>3-quetrous, procumbent.</i> (H. K.)
<i>Shrub</i>	feeble, 3 F.
— <i>Branches</i>	3-sided and a ridge between each, covered closely with horizontal, white hairs.
<i>Leaves</i>	subsessile, ternate.
— <i>Leaflets</i>	lanceolate.
— <i>Margin</i>	intire, hairy.
— <i>Base &</i> }	acute.
— <i>Apex</i> }	
— <i>Faces</i>	covered with white hairs.
<i>Raceme</i>	short, terminal on the branches.
<i>Bracteas</i>	2 at base of calyx and 1 on each pedicel, long, linear, pubescent.
<i>Calyx</i>	2 labiate { 3 linear segments } pubescent.
<i>Corol</i>	glab.
— <i>Standard</i>	suborbicular, emarginate, tapering to a short claw.
— <i>Wings</i>	cleaver-shaped, obtuse.
— <i>Claw</i>	= $\frac{1}{3}$.
— <i>Keel</i>	2-petaled.
— <i>Petals</i>	oblong, cleaver-shaped.
— <i>Claw</i>	= $\frac{1}{3}$.
<i>Stamens</i>	1-delphous, in=, a little shorter than pistil, inclosed in the keel and wings.
— <i>Anthers</i>	oblong, medifixt.
<i>Pistil</i>	ascending, glab. rather longer than stamens.
— <i>Stigma</i>	small, diaphanous.
<i>Floration</i>	18th May, 1821.
<i>Place</i>	Mr. James Lee's, Hammersmith.
<i>Country</i>	Corsica.



GENISTA CANDICANS. (W.)

Hoary Genista.

<i>Branches</i> . . .	<i>angular.</i>
<i>Peduncle</i> . . .	<i>multiflowered, terminal.</i>
<i>Leaves</i> . . .	<i>ternate, obovate, pubescent, covered with adpressed hairs. (W.)</i>
<i>Shrub</i> . . .	<i>upright, 6-8 F.</i>
<i>Stem</i> . . .	<i>9-ridged, intervals fluted.</i>
— <i>Branches & Shoots</i> }	<i>sericeous, ridged.</i>
<i>Leaves</i> . . .	<i>alternate, ternate.</i>
— <i>Leaflets</i> . . .	<i>obovate.</i>
— <i>Margin</i> . . .	<i>intire, ciliate with white hairs.</i>
— <i>Base</i> . . .	<i>cuneate.</i>
— <i>Apex</i> . . .	<i>obtuse, mucronate.</i>
— <i>Surface</i> . . .	<i>a few long, adpressed, white hairs.</i>
— <i>Subface</i> }	<i>numerous, " " .</i>
— <i>Axis</i> . }	<i>0.</i>
— <i>Branches</i>	
<i>Stipules</i> . . .	<i>grooved, acuminate, pubescent.</i>
<i>Inflorescence</i> . .	<i>capitate, 3-4-flowered.</i>
— <i>Pedicels</i> . . .	<i>very short, pubescent.</i>
<i>Bracteas</i> . . .	<i>2 at base of calyx, linear, pubescent, acute.</i>
<i>Calyx</i> . . .	<i>short, tubular, 3-fid, covered with subadpressed hairs.</i>
— <i>Segments</i> . . .	<i>acuminate.</i>
— <i>Sinus</i> . . .	<i>acute.</i>
<i>Corol.</i>	
— <i>Standard</i> . . .	<i>orbicular, emarginate.</i>
— <i>Claw</i> . . .	<i>short.</i>
— <i>Wings</i> . . .	<i>cleaver-shaped.</i>
— <i>Limb</i> . . .	<i>oblong, obtuse, 1-sided.</i>
— <i>Claws</i> . . .	<i>short.</i>
— <i>Keel</i> . . .	<i>2-petaled.</i>
— <i>Petals</i> . . .	<i>like the wings and = to them.</i>
<i>Floration</i> . . .	<i>16th July, 1821.</i>
<i>Place</i> . . .	<i>Mr. James Lee's, Hammersmith.</i>
<i>Country</i> . . .	<i>Italy.</i>

1871

END OF THE FIRST VOLUME.









